THE HOLL AG e Iron

A Review of the Hardware, Iron and Metal Trades.

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Thompson's Patent Pulverizer.

The machine shown in the accompanying illustration is intended to perform the operation of pulverising upon all sorts of hard materials without the difficulties usually attendant upon that process, and at an unusually rapid rate. It is specially adapted to work upon ores, rocks of all kinds, rolling mill fix, &c., and reduce them to a coarse or impalpable powder, as may be desired. The principle used is that of employing a chillediron ball to roll over the material and thus reduce it to a powder. In the manufacture of umber, the cumbersome but effective method of grinding in past times derived its effectiveness from the use of heavy balls, but they were driven about in horizontal channels, and, we think, at a slow rate; the effectiveness of the principle was, however, beyond a question. The machine shown in the accompanying

beyond a question.

In the machine illustrated the balls are In the machine illustrated the balls are driven about in a vertical plane by elastic revolving disks, which are pressed against them, and at a high rate of speed. The balls themselves, in the largest size of the machine, weigh 190 pounds and roll upon a cast-iron ring or shoe, which is held upon a worden cushion. The grinding is all done wet, and the journals of the machine are all carefully packed so as to prevent the entrance of grit into them.

The cut represents the machine with a portion of the front broken away so as to show the construction. The ball B does the work of pulverizing and rests upon the chilled iron shoe-ring C, and is driven by the rings or disks D D. In operation the ore or rock fed in by the buckets upon the endless belt M is carried upon the shoe ring and ground by the continuous action of the

ore or rock fed in by the buckets upon the endless belt M is carried upon the shoe ring and ground by the continuous action of the ball. The framing of the machine is divided through the center, as on the disks and ring, while the hopper and ends can be taken off so that there is no single piece that has any considerable weight even in the largest size of the machine, which weighs 5 tons. There are two smaller sizes, one of which weighs 3 tons and the other I. We have not had an opportunity to see the machine in operation, but have heard it very highly spoken of. It is built for Mr. Stephen P. M. Tasker & Co., Philadelphia. Mr. Tasker says the machine has been thoroughly tested and is capable of doing a very large amount of work. The figures he gives are 60 tons of rock passing a No. 60 screen in 24 hours. To accomplish this amount of work 10 horse power is needed. Such a machine takes up a space of 4 feet by 7. Experiments have shown that the machine is capable of grinding the hardest substances, and has been able to pulverize such articles as hammer ing the hardest substances, and has been able to pulverize such articles as hammer heads and hardened steel bits thrown in to test its capacity.

SCIENTIFIC AND TECHNICAL.

Mr. J. H. Thomson, of Shoeburyness, England, recently proposed a new method of working drilling machines. He recom-mends the use of

DRILLING MACHINES OPERATED BY ELEC-

DRILLING MACHINES OPERATED BY ELECTRICITY, the drill being contained in a metal frame, in the central part of which are fitted two revolving drill spindles, one within the other, the larger being hollow and the smaller one solid. The small spindle has at its end a shoulder on which a drill or bit is fitted, and prevented from turning on the spindle by means of a feather and slet. Another drill or bit is similarly fitted on to a shoulder on the hollow spindle, and is made hollow to allow of the drill or bit on the small spindle revolving within it. The revolving spindles are driven in opposite directions, each having fixed to it a beveltoothed wheel, which two wheels gear into and are operated by two bevel pinions, each and are operated by two bevel pinions, each fixed to a tubular part or sleeve made so as to revolve on a fixed axis at right angles to to revolve on a fixed axis at right angles to the revolving spindles, such axis passing from side to side of the frame, an aperture through the same being provided for the small drill spindle to work in. To each of the loose tubular parts or sleeves is fixed a disk, to which eight pairs of iron bars are connected. The said bars are wound with insulated wire so as to form electro-magnets. These in turn attract armatures fixed to the frame. The electric current is admitted through a terminal, whence it passes to a contact maker, thence to brushes, and from these latter to insulated rings, each split into eight parts to correspond to the magnet, and so arranged that only those magnets are in action which are approaching the armatures. From the magnets the electric current passes to another set of insulated rings, and thence by the brushes to a terminal. The connecting wires pass along minal. The connecting wires pass along the frame of the machine. Suitable handles are provided by which the operator may hold and work the machine. If the diame-ter of the small drill or bit be in the ratio of 794 (or thereabouts) to the diameter of the larger drill or bit, the two drills or bits will counteract each other, and the frame will not have a tendency to turn round. Single drills or bits may, however, be employed when (as in the case of small work) con-

Electricity has within late years produced

with a concentrated solution of nitrate of potash, the liquid being retained by a shallow vessel in which the glass is placed. A platinum wire is dipped in a horisontal position in the solution along the edges of the glass. The wire is attached to one of the poles of a secondary battery of 50 or 60 elements. The lines are traced by hand with the point of an insulated platinum wire connected with the other pole of the battery. The parts of the glass covered with the alkaline solution become engraved when touched with the end of the platinum wire, however rapidly this is moved, the thickness of the lines varying with the thickness of the size of the wire. The current from either pole may be used in the writing wire.

Mr. William Crossley, of Glasgow, read a paper some time ago before the South Wales Institute of Engineers, on "Safety Lamps and Preventions of Explosions in Collieries." The danger of explosions is to be obviated by the introduction of

A NEW SAFETY LAMP,

water level or movements of the vessel from which the apparatus was worked. The invention of Mr. Thomas English, of Hawley, England, relates to an Apparatus vas worked. The invention of Mr. Thomas English, of Hawley, England, relates to an Apparatus was worked. The invention of Mr. Thomas English, of Hawley, England, relates to an Apparatus was worked. The invention of Mr. Thomas English, of Hawley, England, relates to an Apparatus was worked. The invention of Mr. Thomas English, of Hawley, England, relates to an Apparatus was worked. The invention of Mr. Thomas English, of Hawley, England, relates to an Apparatus was worked. The invention of Mr. Thomas English, of Hawley, England, relates to an Apparatus was worked. The invention of Mr. Thomas English, of Hawley, England, relates to an Apparatus was worked. The invention of Mr. Thomas English, of Hawley, England, relates to an Apparatus was worked. The invention of Mr. Thomas En the use of which, it is claimed, obviates all difficulties previously experienced. A rotating boring tube is employed, having at its end suitable cutters, which, when hard rook has to be bored, may be arranged as in dismond rock drills. This tube is steaded in a vertical or more or less inclined position by a frame resting on the bottom, the tube itself extending some distance above the surface of the water. At the upper end of the tube a bearing is provided for it in a framing, in which there is also a bearing for a short shaft at nearly right angles to the tube, carrying a bevel wheel which gears with a bevel wheel on the tube. The framing also carries a weight, the effect of which may be increased or diminished, as required for the nature of the work, by means of a counterweight connected to the frame of the drill tube by a rope or chain passing over pulleys

were exploded by a lighted match, showing that they were the components of water. The experiment indicates that this explosive mixture of gases may be formed in a steam boiler, but it is scarcely probable they ever would be. The boiler must, at least in part, be raised to a full red heat. Then cold water must be injected, for so long as steam and the gases are mixed, the latter cannot explode. The injection of water must condense the steam in the boiler before it cools the red-hot iron. All these very probable conditions being fulfilled, an explosion of the gases may take place.

According to the English Mechanic, a patent has been taken out in Germany for a new description of

ELASTIC LACQUER.

which will not peel off, and which is suitable Wales Institute of Engineers, on "Safety Lamps and Preventions of Explosions in Colleries." The danger of explosions is to be obviated by the introduction of

A NEW SAFETY LAMP,

which should be worked with atmospheric air entirely extraneous to the colliery itself. This could readily be done by distributing air pipes through the works, exactly in the same manner in which gas pipes are distributed wheel on the tube. The framing also to the frame of the work which may be increased or diminished, as required for the as for wood and ironwork, walls, &c. It may also be employed as an isolating layer for damp rooms, as a means against dry-rot, on a jib or derrick mounted on a barge or other suitable floating vessel moored in the required position. On board this vessel is placed an engine, the revolving shaft of slaked in 20 kg. of water. As soon as the

bath of bitumen or melted paraffine wax or bath of bitumen or [melted paraffine wax or other similar liquid, and an extra security of insulation and solidity is thus secured. It may be rolled or twisted up sideways to be placed in the bath. The web or ribbon, in the flat state as woven, can be easily painted with any fluid compound if desired, an ordinary paint brush being employed for the purpose, or the web or ribbon may be covered with gutta percha, or with some similar substance, by being passed through a die where the compound is under pressure.

Steel for Ship Plates.

A decision recently announced by the Consett Iron Company, England, must be regarded as significant at the present time. This company has bought immense iron-works and collieries in the northwest of Durham at a very low price, and by good management it has paid wonderful dividends for many years. The company is, indeed, the largest iron-plate producing concern in the world; and hence it is a fact of very great significance to find that it has decided to erect a Siemens-Martin plant for the production of steel plates.

Hitherto the ships built on the northern rivers of England have, since the cessation of the building of wooden vessels, been of iron, with very few exceptions. Exceptional steel vessels have been built on the Tyne and the Tees and at West Hartlepool, but all the steel for some of these, and much of it for others, has been obtained from districts that have earlier commenced the production of steel plates for shipbuilding. Steel ship plate production commenced on a large scale some three years ago only, but the immense steel-rail mills erected near Middlesboro' produced 69,000 tons of steel rails in 1879, about 90,000 tons last year, and this year will enlarge that quantity. These were boro' produced 69,000 tons of steel rails in 1879, about 90,000 tons last year, and this year will enlarge that quantity. These were made at first exclusively from foreign iron tres, to the loss of the consumption of local ores, but the dephosphorization process enables the latter now to be used, and hence there is a growing production of steel, in the form of rails, in the North. Practically, the production of what was one of the staple manufactures of the district—iron rails—is now extinguished in place of those of the now extinguished in place of those of the more enduring metal. For long there has been a controversy whether iron thus sup-planted would also have steel substituted for it for shipbuilding uses.

it for shipbuilding uses.

The Consett Company takes the lead in the production of iron for ships, and hence the significance of the step it has now announced, if even that step be taken on a scale comparatively small. Locally and nationally the question of the comparative service of iron and steel in shipbuilding is being discussed, and is also undergoing the test of experience. In the most recent of these discussions it was stated on the side of iron that a given vessel would cost 43% per production. iron that a given vessel would cost 4% per cent. more per ton of deadweight carrying capacity if of steel than it would if of iron; while, on the other hand, it was claimed that even with steel much above iron in price, as at present, it would, by carrying more, cost slightly less per ton of carrying capacity. An example was given of the cost of steel and iron vossels—the former of a certain size costing £18,350, and an iron one the same size costing £17,000, but carrying 80 tons less freight. Hence it was contended that for the additional cost there was a very large interest. When the matter is narrowed to these dimensions it can scarcely be said that it is too soon to speak of the ultimate substitution of steel for iron in shipbuilding.

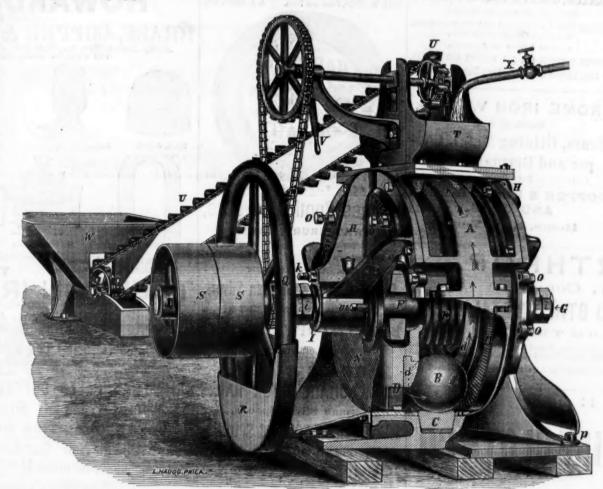
A Phosphor-Bronze Steam Yacht .-A trial trip of this small steam launch, the property of the Phosphor-Bronze Company, Limited, London, took place recently. The vessel is built entirely of phosphor-bronze. Her length is only 35 feet, her beam about 6 feet, and she attained a speed of 12½ miles per hour, which, considering her size, is a creditable performance. The chief object of the company in having so small a craft built was to test the rigidity of the ways. built was to test the rigidity of the phosphor-bronze sheet and angle pieces used in her construction, prior to having boats built on a large scale. The results have been be-yond the company's expectation as regards rigidity and absence of vibration. cost of phosphor-bronze boats will not much exceed that of steel boats, and as the metal

is not subject to corrosion like iron or steel, and also retains its value, the use of the

material in the construction of stess launches, torpedo boats, &c., is probable.

The British army in South Africa, in the EXPLOSIONS

was shown at work, proving, according to the inventor, that steam might be decomposed by simple heat into the constituent gases of water—experiments conducted were interesting, but perhaps not conclusive as showing a but perhaps not c plements carried off the prize last summer at a fair in Bulgaria, not far from where American rifles, in the hands of the Turks, carrying further than the old-fashioned weapons of the Russians, made such deadly havoc on the fields of Plevna. American locomotives thunder over the plains of South ern Russia, and through the gorges of the Caucasus to Tifflis, almost on the confines of



A—Body of machine.

a a—Steel wearing plates.

B—Chilled fron ball.

C—Shoe ring with wood cushion.

D —Disk ring.

d d—Disk blades.

E—Sprice. E—Spring. F F—Clutch journals.

O O-Screws for holding screens, P-Foundation Bolts

THOMPSON'S PATENT PULVERIZING MACHINE.

throughout houses. The pressure required would be about equal to that of gas in ordinary supply pipes, and the air could be nary supply pipes, and the air could be supplied from a reservoir, which, in turn, could be kept full by means of suitable blowing appliances. The lamp is entirely closed to the outside atmosphere, except the outlets at the top for the escape of the products of combustion. It consists of an ordinary oil vessel and wick, a closed air ordinary oil vessel and wick, a closed air reservoir for the distribution of air to the parts required for keeping up combustion and for cooling purposes, and, further, of two glass cylinders arranged concentrically, with a small air space between them. The air for combustion passes up through the inner glass cylinder. There is also a current of air between the outer and inner glass cylinders, which keeps the outer one cool, and, mixing with the products of combustion from the inner one, also cools them to a point at which they may be safely allowed

to escape. Mr. Crossley's scheme also includes taking the lamps from the place where they are cleaned and prepared to the working parts of the colliery, which he proposes to effect by the aid of a tank bogie. This is so arranged as to contain atmospheric air at high pressure—say, 200 to 300 pounds per square inch, is fitted with small stop cocks, and is capable of carrying at least 100 lamps at a time for distribution in the working. The lamp can be arranged to the working. The lamp can be arranged to burn in the same manner as an ordinary

uted through the streets of towns and throughout houses. The pressure required would be about equal to that of gas in ordible twisted wire shaft, such as is frequently interesting the whole is then stirred until it has become the whole is then stirred until it has become empoyed for working drills in various posi-A flexible hose in connection with a nons. A nextble lose in connection with a pump conducts water, under pressure, to the interior of the drill tube. The boring tube is lowered by means of the jib or derrick chain into guides provided in the steadying frame, and its counterweight is adjusted to frame, and its counterweight is adjusted to suit the nature of the ground or rock to be bored; it is then, by means of the flexible shaft and gearing, caused to revolve, while water is forced through it to scour out the

At a recent meeting of the American Academy of Sciences, an apparatus illus-

possible cause of boiler explosions. The apparatus was very simple—a flask in which water was heated, a tube conveying the steam into a closed platinum crucible, where it was again heated by a spirit lamp, wonderful results in almost all branches of science. One of the latest achievements, successfully introduced by M. Plante, is steam and the liberated gases to an ordinary pneumatic trough, where the mixed gases the warp. The wires may, however, be arranged as the warp. The wires may, however, be arranged as steam and the liberated gases to an ordinary pneumatic trough, where the mixed gases composed of a warp of threads of insulating material on a closed platinum crucible, suitable material employed as the warp. The wires may, however, be arranged as steam and at tube thence carrying where it was again heated by a spirit lamp, the wires may, however, be arranged as steam and at tube thence carrying where it was again heated by a spirit lamp, the wires may, however, be arranged as steam and at tube thence carrying where it was again heated by a spirit lamp, the wire it was again heated by a spirit lamp, the wire it was again heated by a spirit lamp, the wire it was again heated by a spirit lamp, the wire it was again heated by a spirit lamp, the wire it was again heated by a spirit lamp, the wire it was again heated by a spirit lamp, the wire it was again heated by a spirit lamp, the wire it was again heated by a spirit lamp, the wire it was again heated by a spirit lamp, the wire it was again heated by a spirit lamp, the wire i

thoroughly mixed. This composition is poured into the boiling varnish, the whole being stirred all the time. Further stirring takes place until a homogeneous mass is formed, which is afterward strained or filtered, and left to cool. After cooling, the lacquer has a pap-like consistency. To apply the lacquer it is diluted with the desired quantity of varnish, and put on with brushes, either in a warm or cold state; but it is said to be better to apply it warm, as then no varnish is required for diluting it. borings, the tube descending as the hole becomes deepened. When it has descended a certain distance the gearing and its frame are detached, an additional length of tube is added, and the boring is continued.

The same to be better to apply is warmed to be better to apply it warmed to be better to apply it warmed to be better to apply it warmed to b ers. After treatment, the linen or other stuffs, paper, &c., are hung up to dry. Stuffs are perfectly dry and ready for use in two days. The product is stated to be lustrous, elastic, not sticky, and perfectly

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William Nehring, of Cincinnati, Ohio, William Nehring, of Cincinnati, Ohio, some time ago invented a new and useful improvement in annealing furnaces, the invention being more particularly designed for the production of malleable east iron. It is well known that the labor of putting the articles to be annealed into, and getting them out of, the furnace by the customary plan is attended with much delay and difficulty, and that while within the furnace. culty, and that while within the furnace some of the larger articles are insufficiently some of the larger articles are insufficiently the interior of the oven. T are the truck annealed, while other articles, becoming overheated, are liable to sag and become welded together, and besides, injuries received from these causes are with difficulty removed from the furnace. With the object of economizing both material and labor and producing better work, Mr. Nehring has so constructed his improved furnace the interior of the oven. T are the truck where the oven. T are the truck where the oven. T are the truck where the interior of the oven. T are the truck where the interior of the oven. T are the truck where the interior of the oven. T are the truck where the interior of the oven. T are the truck where the interior of the oven. T are the truck where the interior of the oven. T are the truck where the interior of the oven. T are the truck where the interior of the oven. T are the truck where the interior of the oven. T are the truck where the interior of the oven. T are the truck where the interior of the oven. T are the truck where the interior of the oven. T are the truck where the interior of the oven. T are the truck where the interior of the oven. T are the truck where the interior of the oven. T are the truck where the interior of the oven. The truck wall are preferably just sufficiently the interior of the oven. The truck wall are preferably just sufficiently the interior of the oven. The truck wall are preferably just sufficiently the interior of the oven. The truck wall are preferably just sufficiently the interior of the oven. The truck wall are preferably just sufficiently the interior of the oven. The truck wall are preferably just sufficiently the interior of the oven. The truck wall are preferably just sufficiently the interior of the oven. The truck wall are preferably just sufficiently the interior of the oven. The truck wall are preferably just sufficiently the interior of valid, A, to permit the interior of valid, A, to permit the interior of valid, A, to permit the interior of valid,

parts. Rising vertically from the front edge of the truck floor is a wall, P, which, when the truck is driven home, serves as the front wall of the oven, and also does duty as its door. Ventilators or cooling inlets, Q, in the truck wall are closable by means of doors, R, by partially or wholly opening of which air may be admitted either to assist combustion or to aid in regulating the heat, either generally or locally, as may the heat, either generally or locally, as may be deemed necessary. The doors, R, are preferably provided with mica windows, S, to enable inspection from time to time of the interior of the oven. T are the truck

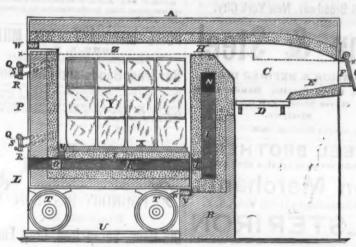


Fig. 1.—An Improvement in Annealing Furnaces.—Longitudinal Section.

that a full charge of articles to be annealed | are charged with the articles to be annealed. mounted on wheels, and movable toward and from the stationary portions along a rail track like a truck. Except for the largest articles, the objects to be annealed are placed in crucibles or boxes, which boxes are stacked on the floor of said movable portion, which portion is then pushed into the furnace proper, of which the floor of the truck then constitutes the bottom. of the truck then constitutes the bottom, and of which the wall at one end of the truck constitutes the closed door. This having been done, the joint between the fixed and movable portions is sufficiently closed by means of brick. In order to regu ate and direct the heat to different parts of the furnace, the flues are constructed in several branches, one or more of which are capable of being wholly or partially closed at the discretion of the attendant. In the accompanying drawings Fig. 1 represents a longitudinal fore-and-aft section of an annealing furnace embodying Mr. Nehring's orinciple. Fig. 2 is a section on the line xx of Fig. 1.

As before stated, these furnaces are pro-

that a full charge of articles to be annealed can be inserted simultaneously, and when, in the judgment of the furnacewan, sufficiently annealed, can be as promptly removed. To accomplish this, he has constructed the bottom and front of the oven or furnace on a strong iron framework, mounted on wheels, and movable toward and from the stationary portions along a rail track like a truck. Except for the largest articles, the objects to be annealed are placed in crucibles or boxes, which boxes are stacked on the floor of said movable portion, which portion is then pushed dues J, leading to uptakes I within fire-bridge B, said orifices being provided with regulating doors or stoppers, the whole being arranged and operated substantially as set forth.

The Queen City Malleable Iron Co., of Cincinnati, Ohio, have used these furnaces since last May, each furnace being filled with about 8000 pounds of castings three times per month, and up to the present time there has been no need of repairs. The company, in fact, feel confident that quite some time will pass before any repairing will be required. The surface of the grate and fireplace of the furnaces used by them measures 21 x 36 inches, and it takes 36 hours to produce temper heat. Their annealing boxes will stand from 6 to 12 heats. In future they expect to make the retorts as long as vided with movable trucks, one of which the trucks, and use in their construction 1/2

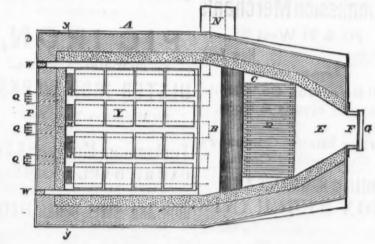


Fig. 2.—Section on the Line x x of Fig. 1.

may be packed with articles to be annealed, and can be pushed in while the other one is withdrawn. In unpacking the oven it is not necessary to destroy a who'e wall of it, but only a few bricks must be taken out, and it is easy to see how much material, but only a few bricks must be taken out, and it is easy to see how much material, time and labor is saved.

The retorts are made of the same breadth as the trucks, and are lined inside with 1/2 as the trucks, and are lined inside with ½inch cast-iron plates. A represents an arched
vault of masoury, open at both ends. This
vault is divided into two unequal compartments by a pier or parti-wall, B, which,
stretching transversely from side to side,
reaches nearly to the ceiling. Of these
compartments the smaller compartment is,
at its upper part, occupied by a fire-place or
furnace proper, C, having a grate, D, coke
shelf E, mouth F and door G. For this fireplace the upper part of wall B does duty as shelf E, mouth F and door G. For this fire-place the upper part of wall B does duty as fire-bridge. Through the passage H, above the said fire-bridge, the products of combus-tionescape into the larger compartment afore-said. The wall B has a flue or uptake, I, which communicates at or near its lower part on the front side with a series of flues, J, communicating with like flues, K, in the bad or floor, L of the twick L. The matches part on the front side with a series of flues, J, communicating with like flues, K, in the bed or floor, l, of the truck L. The uptake I discharges by flue N into a suitable chimney. The flues K, near their front ends, communicate by short downtakes, M, with the said larger compartment, which, in conjunction with the truck, constitute the oven proper, Z. The flues K extend preferably to the extreme front of the truck, so as to form onenings. K. in the manner repre-

The Austrian Iron Trade.—A rising tendency has made itself felt in the Austrian iron market, and the improvement which has taken place during the past few weeks has not been confined to particular descriptions of iron, but has been almost universal. has not been connect to particular descriptions of iron, but has been almost universal. Pig iron, especially, occupies now a very firm position, and is worth a great deal more than a month ago, although sales have not been of very formidable extent; because makers, speculating upon a brisk business in the spring, keep very reserved, especially with regard to future delivery. Styrias and Carinthian pig can only with difficulty be obtained under 43 florins per ton, and as refining forges and manufactories are provided with orders which will in most cases extend as far as the middle efficient of the present firm tendency of the market may be implicitly relied upon. Steel rail mills and steel works generally are atill in full swing with old orders, and engineering shops are likewise well provided with work. It is a fact that, notwithstanding the advanced state of the season, business is conducted on a very firm basis, that to the extreme front of the truck, so as to form openings, K, in the manner represented, and each is supplied with a movable plug or stopper, O, which, being pushed rearward or drawn forward, serves to close or open the respective downtakes, and thus to regulate and direct the heat to particular tributed to strengthen the season, business is conducted on a very firm basis, that a stop has at last been put to precipitate offers, and thus fluctuations, caused by severe competition, have ceased. The proposed increase in the import duties on pig iron, however, has also not slightly contributed to strengthen the market. But

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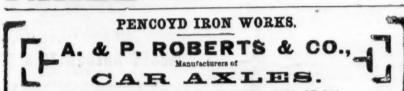
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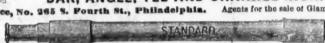
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the opposition on the part of consumers of pig iron against such an increase is becoming more and more determined, and a petition against it has been sent to the Minister of Commerce by the Austrian iron works, demonstrating how an increased duty on pig iron would seriously and permanently injure that branch of industry, by abnormally raising the price of raw material. An advance of wices for rad iron by the Boinjure that branch of industry, by abnormally raising the price of raw material. An advance of prices for red iron by the Bohemian works has only been partially adopted in the Moravian and Silesian works. A recent report states that a new coal seam has been discovered between Miroeschan and Rozmital, in the Pilsen district. The present state of affairs is of an encouraging character, and the prospect of business in spring is promising in every respect.

Account Books as Evidence.—When books of account are to be used in evidence to prove a debt, it is sufficient to make the entries therein admissible to show that they were made in the regular course of business. An action was brought for the price of 25 barrels of flour. The charges upon the books were made by the bookkeeper upon the in-formation of the salesman who had sold and delivered the flour to the defendant, Law. delivered the flour to the derendant, law. The defense was that the book entries were not made upon the knowledge of the book-keeper. The court said: "We discover nothing in this case to take it out of the well-settled rule that the books of the parties containing daily accounts of their business transactions, and made in the regular course transactions, and made in the regular course of business, are admissible in evidence in their favor in an action for the goods sold and delivered. The charges on the books of a tradesman are often necessarily made by a bookkeeper upon information given by the salesman who actually sells and delivers the goods. Such charges are made in the regular course of business. It is difficult to see upon what principle they could be excluded."—Smith vs. Law, Supreme Court of Connecticut. necticut.

Reclaiming Goods Before Delivery.— The right to stop goods in transit because of any failure to comply with the contract is ended when the goods reach their destinaended when the goods reach their destination and are stored by the carrier as the
agent of the purchaser. The Mason & Hamlin Organ Company sold at Chicago to one
Peck, of Waverly, Iowa, two organs, upon
time, and shipped them by the Illinois Central Railroad late in December, 1879. The
organs were unloaded at Waverly and stored
in the warehouse for Peck, and, about the
1st of January, Peck was compelled to suspend business because of insolvency. One
Clapp, a creditor, attached the organs, and
the organ company intervened in the action
to reclaim the property, and recovered
judgment. On appeal it was held that an
unpaid vender has the right to reclaim goods
while in transit, and the right continues while in transit, and the right continues until there is an actual or constructive delivery of the possession to the purchaser. If upon the arrival of the goods at their destination they are stored in a warehouse by the carrier, as the agent of the consignee, the vender's right of stoppage is terminated.—Clapp vs. Peck, Supreme Court of Iowa.

Seaworthy torpedo boats will probably change the naval armaments of the world in a remarkable way. Information has been received that the two improved first-class torpedo boats which Messrs. Yarrow & Co., England, lately built for the Argentine Government have reached Buenos Ayres in perfect safety. The vessels were rigged for sailing, and have been found to answer very well under canvas. One was navigated direct from London across the Atlantic without being accompanied by any convoy, while the other steamed first to Fiume to have her torpedo gear fitted on board at Mr. Whitehead's works. This is the first instance in which a torpedo boat has crossed the Atlantic, the result being that craft of the kind can be built combining exceptional speed and rapidity of movement with seaworthiness and capability of steaming long distances. The two Austrian boats completed by the same firm, which, it may be remembered, realized a speed of 22 knots, have successfully steamed from Poplar to Pola. Messrs. Yarrow have also despatched ten of the same class of torpedo boats, known as the Batoum class, to the Mediterranean, thereby proving that they can be navigated long distances in case of need. The firm are at present engaged in building similar boats for the Dutch, Italian, Portuguese, Argentine and Brazilian go

Commenting upon the future prospects of Spanish ore, La Gaceta Industrial refers with satisfaction to the amount of foreign capital which is finding its way to Spain, and being invested in the erection of steel works. Already there are a number of natives engaged in this particular trade; but the time seems approaching when many of the large European steel producers will find it necessary to turn out the finished material on the spot where they obtain the ore. Among the firms mentioned as already constructing works, or in negotiation for the necessary property in the North of Spain, are Krupp & Co., several Belgian firms, and a well-known English house. Bilbao will have several steel works under foreign management; there will be one at Santander, and another at Belmez; while in the province of Ovideo rumors are prevalent of the vince of Ovideo rumors are prevalent of the establishment of a large plant for working the basic process.

The excellent work of aiding in extending American commerce by means of information in relation to foreign markets gathered by our Consuls and laid before the public by the State Department, is constantly producing valuable results. A document of 383 pages just issued from the Government Printing Office gives an amount of well-digested information in relation to the extension goods trade of the world, and the share of the United States in it, which is nowhere else available. Although 23 of the 79 Consuls requested to respond to the circulars of the State Department failed to do so, the answers received cover all the important countries and commercial centers of the globe. The excellent work of aiding in extend-

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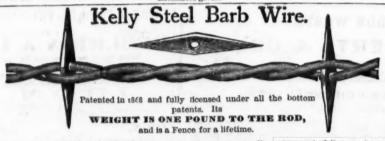
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Fig. 1.—The Twisting of a Right Handed Rope.

have determined to combine in one article have determined to combine in one article
the information which at first we intended
to put into a series of answers to queries.
We shall at the same time add such matter
as seems to be necessary and important in
this connection.
Ropes are divided into several classes,
according to the method in which they are
made or twisted. In general, the yarn from
which the strands of a rope are spun is
twisted from the right over to the left, thus

twisted from the right over to the left, thus



Fig. 2 .- A "Shroud" Laid Rope. Four Strands, with a Core or Heart.

making the yarn itself right-handed, as it is called. The strands which are formed from the yarns are twisted in the opposite direction, so as to be left-handed, while those in turn are twisted together so as to make the rope right-handed. This we have attempted to illustrate in Fig. 1. Such a rope as this is called by sailors "plain-laid" rope. Sometimes, even in small ropes, four strands instead of three are used, and the



Fig. 3.—A Cable or Hawser Laid Rope.

rope is called "four-stranded." Such rope in the small sizes is somewhat smoother out-side than plain-laid rope. When it is larger it is made with a core or heart, as is shown in Fig. 2, and is by sailors called "shroud-

These ropes are often laid up into a larger left-handed rope. This makes what is called a cable-laid or hawser-laid rope. This is



Fig. 4.—One way of Securing the Ends of a Rope by Whipping or Serving.

shown in Fig. 3. In England, "hawser-laid" is applied to ropes laid in the manner shown in Fig. 2, and "cable-laid" to a left-handed rope made up of three hawser-laid ropes like that shown in Fig. 3. This is probably the correct way of naming them. There are many other kinds of rope, some of which, like the hell cords of cars, are made by the correct way of naming time. Finally, the stranger in the stranger in the correct way of name of which is not easily spliced, and, so far as we know, are not easily spliced, and, so far as we know, which is useful when a rope has a great deal which

lings. Probably they could be spliced, but we do not know how it would be undertaken. It is well to note that right-handed ropes coil "with the sun," and left-handed ropes in the opposite direction or "against the sun."

When we make use of cordage of any kind



Fig. 5.—Manner of Laying the Twine in Commencing to Whip or Serve the End of

of course the ends require protection, to prevent them from untwisting and becoming frayed and unserviceable. To secure the end of a rope properly, then, is the first thing that demands attention. The most natural fashion of doing this is to simply tie an overhand knot and jam it fast. This may prove effectual, though the untwisting of the ends beyond the knot and



Fig. 6.—Passing the Free End of the Twins Through the Loop.

the liability of the knot to slip when first made, render it somewhat unsafe. Usually, too, a knot of this kind in the end of a rope is inconvenient. If intended to prevent the rope from going through a hole, it has the additional disadvantage of not forming a square shoulder.

The simplest method of making the end of a rope secure is by whipping or "serving," as sailors sometimes call it, with twine or



Fig. 7.—The Loop Pulled Down Beneath the Turns.

waxed thread, according to the size of the rope. This, if well done, is a serviceable method. One method which is pretty generally known is shown in Fig. 4. The end of a rope when whipped has this advan-



Fig. 8 .- Manner of Securing the End of the Twine when the Winding is Finished.

tage—that the end will pass through any opening which will admit the rope itself.
There are several methods of whipping, some of which, under the name of "lashings," are useful for other purposes. In Fig. 5, we show how the twine is to be laid in commencing to whip or "serve" the end of a rope. One end forms a loop along the rope; the twine is then carefully wrapped around and drawn "taut." When the whole space has been covered, the free end of the twine is passed through the loop



Fig. 9.—Another Method of Whipping or Serving the End of a Rope.

as shown in Fig. 6. Then, by pulling on the end, the "bights" or loops are pulled down beneath the turns, as shown in Fig. 7. The loop, of course, is under all the turns.

In Figs. 8 and 9 another method is shown.

The twine is laid along the rope and the winding begun at once. When completed to within half a dozen turns of the end, a piece of twine is looped and laid down on the rope and the balf a dozen turns of the end, a piece of twine is looped and laid down on the rope and the turns taken over it. When the winding is finished the end is passed through the loop, and then, by pulling, the end is drawn through so as to appear as in Fig. 9.

Fig. 10 shows how the ends of very large ropes are sometimes finished. Here not only

ropes are sometimes finished. Here not only are the large strands wound or served, but the rope itself is secured in the same manner. Finally, the strands are turned over and whipped down upon the main or "stand-

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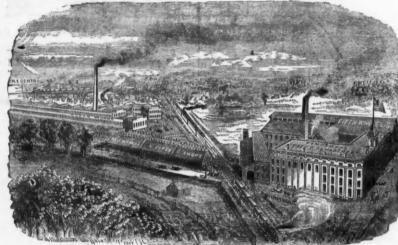
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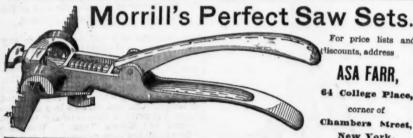
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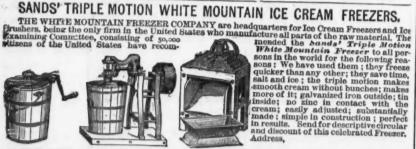


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HAND FREEZER. HAND OR POWER. HAND OR POWER White Mountain Freezer Co., 25 and 50 qts. 875.00 and \$175.00.

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urope, and are unexcelled for perfection of work and labor saving. We now offer them with the latest improvements, and will apply them to forging and grinding other articles o tapering or otherwise irregular form.

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Works at NEWARK, N. J.

Bandsaw Files, Boot Heel, Brass, Cabinet, Cant,

Cotter Taper, Cotter Equaling, Cross or Crossing, Doctor,

Drill, Feather Edge, Finishing, Flat Flat Equaling, Flat Wood,

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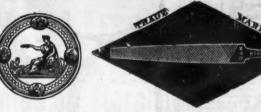
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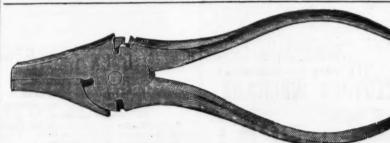
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KING Manufacturers of the BUTTONS PATENT

CUTTER AND PLIER COMBINED." Specially Adapted for Use on Wire Fence.

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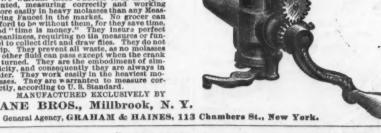
For Light or Heavy Molasses, Varnishes or other Fluids.

We warrant these Faucets to be as represented, measuring correctly and working more easily in heavy molasses, and working more deality in heavy molasses than any Measuring Faucewin of the same than any Measuring Faucewin them, for they save time, and the same than the same than any Measuring Faucewin the same than the same to collect dirt and draw files. They do not drip, they prevent all waste, as no molasses or other fuld can pass except when the crank is turned. They are the embodiment of simplicity, and consequently they are always in order. They work easily in the heaviest molasses. They are warranted to measure correctly, according to U. S. Standard.

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WIRE MAILS

TACKS, SHOE NAILS,

And Every Variety of Small Nails.

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Any variations from the regular size or shape of the above-named goods made from sample to order.

A SILVER MEDAL has been awarded above goods at the Paris Exposition, being the only medal awarded any American manufacturer of Tacks and Wire Nails.

DUC'S PREMIUM ELEVATOR BUCKET.



ALWAYS FIRST COMPETITIVE



The Storehouse Bucket, in sizes from 12 to 17 inches

PREMIUM IN



The Mill Bucket,

This Bucket is struck out from the best charcoal iron; consequently is very durable. It requires 50 per cent, less power to run it than the old-fashioned square bucket, and will outwear half a dozen of them. Over 300,000 are now in use by the principal Millers, Brewers, Mutaters and Manufacturers at home and abroad. It is the best Bucket made.

CAUTION.—The popularity of the **DUC BUUKET** has caused many manufacturers of the old style of Elevator Bucket to closely imitate its spherical shape. We warn all parties against patronizing infringers of our patents, as they will be held accountable. Send for circular. Address

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TITITITITITITI OLD COLONY RIVET CO., Kingston, Mass.

Manufacturers of NORWAY IRON RIVETS of Superior quality.

We carry a large stock of the various sizes of Tinners', Carriage, Wagon, Hame, Belt, Barrel, Safe and Tank Rivets, and make promptly to order all sizes not larger than 7-16 inch diameter. We have a capacity of two tons of the various sizes of small Rivets per day of ten hours. Freight allowed to all points on or east of the Mississippi River. Correspondence with buyers solicited.

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ents, The American Tack Co., 116 Chambers St.

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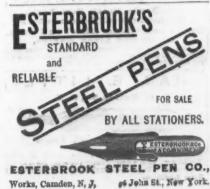
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With Patented O. G. Border. ROUND ZINC. 27, 30, 32, 34, 36 Inch.

Manufactured of heavy metal, requiring no nailing or lining, the edge retaining its Superior pattern, finish and quality. Price as low as any.

Send for List and Discount Packed 12 in each case.

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HORSE NAILS.

Hot Forged, Warranted Best Quality, Pointed and Polished.

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of hard usage, like that of a fall and tackle, and in ordinary whipping is likely to come off. The whipping is made in any of the ways we have shown, and then the ends are passed around the whipping between the strands. To do this in the most convenient manner, an extra loop like that shown at x



Fig. 10 .- A Method of Finishing the Ends of very Large Ropes.

in Fig. 6 should be used to take one of the ends down the center after coming upon the outside. This method, by forcing the turns of the twine down into the space between the strands, makes a much more secure piece of work than can be made in any other way. Many who make a business of moving way. Men who make a business of moving safes in cities have to coil and uncoil their ropes and rig them through blocks oftener



Fig. 11.—A Whipping very Useful Upon Ropes having much Hard Usage.

even than sailors. To protect the ends of their most important ropes they not only use the whipping, which we illustrate, at the ends, but put on another just like this about 6 or 8 inches from the end of the rope. A whipping of this kind is best put on with a sail maker's or bagging needle.

(To be Continued.)

The Huntington Emery Wheel Dresser.

We show in the accompanying illustration an improved form of emery wheel dresser for sharpening, truing and shaping emery wheels, and also for removing the glaze from them. The tool consists of a cast-iron handle some 12 inches long, carrying at one end a series of independent sharp-toothed, hardened steel cutters, which turn freely upon a steel pin. These cutters are four or five in number, and have thin disks of steel between them for the purpose of protecting the points. The tool has two sets of cutters, a steel pin. These cutters are four or five in number, and have thin disks of steel between them for the purpose of protecting the points. The tool has two sets of cutters, one of which has disks, and the other is plain. A sample of the tool was sent us, and, being rather skeptical in regard to its creased safety and other advantages are utility, we at once proceeded to a shop to have a trial made. The first work was done upon an old and badly eccentric grindstone, which we suppose was rather an unfair test.

W. Candler and other Boston and New York we need to be will be built at Nyack, on the Hudson, and will cost about \$600,000 each. Great improvements in the application of motive power are also claimed to be in the possession of the projectors, and had remarked to the possession of the projectors, and had created from the whole plan. If these schemes of Bliven and Lorillard for American which we suppose was rather an unfair test. upon an old and badly eccentric grindstone, which we suppose was rather an unfair test. The stone could be trued up with the tool, but only a small portion was done, as the surface did not seem to be quite satisfactory, which we suppose was rather an unfair test. The stone could be trued up with the tool, but only a small portion was done, as the surface did not seem to be quite satisfactory, and a piece of ordinary gas pipe could be employed more effectively. The workmen predicted a failure on the emery wheel also, and said that the diamond tool would be much more effective. Upon trial, however, on a badly glazed wheel we were much surprised to find that it produced in a few minutes a sharp and very nice cutting surprised to find that it produced in a few minutes a sharp and very nice cutting surface, did not chip the edge of the wheel, and, in fact, appeared to be very satisfactory for the purpose. The wheel was a very small one, and of fine grit. We had no opportunity for testing the value of the tool for shaping, but as it did not injure the edge of the wheel, we see no reason why it should not

INDUSTRIAL ITEMS.

The scythe and ax shops of the Hubbard & Blake Mfg. Co. at West Waterville were burned last week; loss on buildings and machinery, \$15,000, and on stock \$10,000;

The Novelty Plow Company has been organised at Portland, with a capital of \$150,000. The United States Bullion Company is also a recent organization at that place, to carry on the business of milling, smelting, &c. Capital, \$500,000.

Great activity prevails in the works of the Gold Medal Sewing Machine Company, who are shipping more machines this month than ever before at this season of the year. The pay roll shows the full number of men mployed.
The Phœnix Manufacturing Company,

Taunton, are running nights to fill orders.
The Farist Steel Company, of Bridgeport,
Conn., get all their crucibles from the Phoenix

Company, as do also the Collins Company, of Collinsville, Conr.

William Fox, of Ohio, has leased the idle Cape Cod Glass Company's works at Sandwich, and will start the glass business again

again.

The Washburn Iron Company, at Worcester, have contracted to deliver 2300 tons steel rails to the New London Northern Road between next March and June.

The Mason Machine Works, of Taunton, have furnished the machinery for the new mill at New Bedford. It is said this concern and the Taunton Locarities Works.

and the Taunton Locomotive Works have orders ahead for two years to come.

orders ahead for two years to come.

The Barney & Berry Skate Factory, Springfis d, is driven with work, and yet the concern is a long way behind its orders. The 125 men and boys employed will turn out some 300,000 parts of skates this year. When the establishment was started, ten years ago, there were but thirteen men, and they made 2000 pairs the first year.

Every day brings out some new marine.

they made 2000 pairs the first year.

Every day brings out some new marine scheme, and the latest is set forth by A. P. Bliven, the projector, as a proposition to build steamers of a new model and frame, with dome-shaped deck and absolutely no masts and spars. He says a company has been formed to undertake the building and operation of steamships of this kind, including Gen. Butler, Alexander H. Rice, John W. Candler and other Boston and New York men. The vessels will be built at Nyack, on

their authors, American commerce will soon



HUNTINGTON EMERY WHEEL DRESSER.

be available for shaping of all kinds. For sharpening a wheel it is satisfactory, as the surface left by it is all that could be desired. The manufacturers say that the tool should be kept well oiled while in use. This is, we presume, in order to secure a free revolution of the cutters, so that the teeth may not strike in the same places each revolution. To further accurate places each revolution. To further secure this, the tool should not be kept on the stone continuously, but raised a little from time to time. In the different cutters the teeth are of different pitches, so that if one set of teeth are in line across the wheel, all the others will "break joint" or be "stagothers will break joint or be stag-gered." The tool is made by the Chicago Screw Company, corner of West Washing-ton and Desplaines streets, Chicago, Ill., who own the patents for the recent improve-ments in the tool. After some severe work ments in the tool. After some severe work upon an ordinary grindstone and the facing of an emery wheel, we examined the points of the teeth under a magnifying glass to see if any wear had taken place. To the naked eye none was perceptible, and even under the glass it was difficult to say that there had been anything more than a roughening of the teeth. The tool is sold at less than one-third the price of a good diamond tool.

The United States Underground Cable Company has just been organized under the general laws of the State of New York, with a capital of \$600,000, which is divided into 6000 shares, with a par value of \$100 a share. The following gentlemen are the share. The following gentlemen are the trustees and incorporators of the company: Adolpho Hegewisch, Joseph J. Slocum, John K. Creevey, Alfred Reichelt and Harry A. Samuels. Adolpho Hegewisch is president, Joseph J. Slocum treasurer, and John K. Creevey secretary. This company has contracted with the Societe Anonyme des Cables Electriques. of Paris, France, for the pur-Electriques, of Paris, France, for the pur-chase of the Berthoud-Borel patents for the United States, and propose to manufacture and lay underground electric cables, both for telegraphic purposes and lighting and for telephonic purposes. The Societe Anonyme des Cables Electriques will manufacture and abit full and complete sate of machinery yme des Cables Electriques will manufacture and ship full and complete sets of machinery for the purpose of putting into practical operation the Berthoud-Borel system in the United States, and will send skilled machinists to explain and superintend the working of the same.

The same

A few years ago a company was formed at Woonsocket under the firm name of the Narragansett Horse Nail Company. The works were continued about two years and then suspended the same length of time. Nearly three years ago the works were revived, and William S. Phillips, of the Globe Horse Nail Company, of Boston, was appointed supering description. appointed superintendent, and the company now exists as the Woonsocket Horse Nail now exists as the Woonsocket Horse Nail Company, with Lyman A. Cook, president, and F. A. Perkins, treasurer. A large amount of money has been expended in the preparation of adequate machines for the business, and the present company claims to have perfected machines which are covered by patents. One of them makes the "blanks," and is termed a blanking machine, while the other rolls, clips and points the while the other rolls, clips and points the nails, two at a single stroke of the machine. nails, two at a single stroke of the machine. These machines are capable of making 250 pounds of nails per day. The best Norway iron, rolled expressly for this company by the Norway Iron Works, of Boston, is used, from 1½ to 2 tons of nails being manufactured weekly. There is some talk of removing the works to Boston.—Boston Commercial Bulle-

The Hartford Engineering Company, Hartford, have a double force of men at work. Among the several large engines in the works are two 20-inch engines for the Wareham Nail Company, of Wareham, Mass., and the Globe Yarn Mill, of Fall River. Two 20-inch engines have just been shipped to the Globe Mills at Saco, Me.

The Bridgeport Brass Company expects to be in active occupation of its large extension.

to be in active occupation of its large exten-sion about Jan. 1. Business is booming and

seems to promise well for the future.

The Vulcan Iron Works at New Britain are pressed with business, and are engaged upon enlargement of capacity to enable them

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PEN AND POCKET CUTLERY, Solid Steel Scissors, Shears, Razors, &c.

"ELECTRIC RAZORS,"

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And the "ELECTRIC SHEARS." Nickel Plated

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38 Chambers Street, New York City. Superior Cutlery of all kinds and grades, from the finest in pearl and ivory handles to the lowest

BUTCHERS' and HUNTERS' KNIVES Are warranted to be equal in style, finish and quality, to any goods made in the world,

"COMPARE, THEN JUDGE." We are the sole owners of the Gardner Patent tinard and Rest for Curving Forks, and manufacture of fine curvers is with us a specialty.

MADE AMERICAN RAZORS COMBINATION - RAZOR STROP J. R. TORREY, J. R. TORREY RAZOR CO. MANUFACTURER OF

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It having come to the knowledge of JOHN WILSON that Counterfeit Butchers' Knives, purporting to be of his manufacture, are being sold in the United States, he hereby cautions all purchasers of his Knives and Steels to be on the alert against such imposition.

JOHN WILSON also hereby gives Notice, that it is his determination to institute Legal Proceedings against any person or persons who may be detected infringing his Trade Mark.

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MARKS' RECISTRATION ACT. WORKS:-SYCAMORE ST., SHEFFIELD, ENGLAND. Established 1750.

Solid Steel CCISSORS, Japannel and

Manufactured of imported English Cast Steel.

Every Pair Warranted.

For samples and prices address,

GIFFORD MANUFACTURING CO.,

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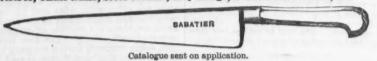


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French Ironmongery, celebrated Cook's Knives, Double-Action Window Bolts Cafetieres, Chair Nails, Steel Chains, Key Rings, Luminous Articles, &c.





THE SHRODER DOOR SPRING.

It will hold a door open as well as shut, and by its peculiar form has four inches more leverage to hold a door shut, closing it tight, where all other Springs fail. No latch required with this Spring

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Correspondence solicited with jobbers and large dealers. We will end a full-size Spring or a small model free, on application. Try it.

REMOVAL.
Please notice that we have removed from No. 295 THIRD AVENUE to No. 37 Warren Street, near Church St., Where we hope to be favored with a continuance of your generous patronage. J. M. FARRINGTON & CO.,

cessors to DAY, FARRINGTON & CO., Manufacturers o LOCKS, KNOBS, GONGS, BLANK KEYS. Mrought Store Door and Flush Bolts, Silver Plated, Ornamental Bronze and other Hardware.

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CELEBRATED CUTLERY,

No. 82 Chambers Street, New York. F. & W. CLATWORTHY, Agents. The demand for Joseph Rodgers & Sons

productions having considerably increased, they have, in order to meet it, greatly extended their Manufacturing Premises and Steam power.
To distinguish Articles of Joseph Rodgers & Some Manufacture, please to see that they bear their Corporate Mark.

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ENGLISH AND GERMAN GUNS,
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ETUBER FILES,
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ETUBER FILES,
All SOITS OF HARD HOES,
ETUBER FILES,
ETUBER FILES,
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All SOITS OF HARDWAYS AND HOES,
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JOHN SPENCER & SON. Albion Steel Works. Sheffield, MANUFACTURERS OF

FILES AND STEEL.

Table Knives, Razors, Shovels, &c., &c., of every description.

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PLYERS, NIPPERS AND TOOLS.
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Peugeot Freres' Horse Clipper.

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ANUFACTURERS OF THE CELEBRATED Kangaroo Sheep Shears.



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Fishing Tackle, CUTLERY.

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1 Platt St., New York, Proprietor of the **Atlantic Screw** Works,
And Agent for the
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Maynard's C. S. Planters'
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Planters' and Grub, and s'
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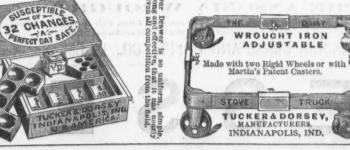
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We have just issued a new Catalogue, which we would be pleased to mail with terms upon application.

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Recommended as the best Hand Clip per made. Extra pieces for

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Screw Wrenches.

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Wrought Bar, Head and Screw.

Owing to the in-

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Our Wrench hav ing been imitated by other manufactu ers, we have adopt ed the above Trade Mark, and will hereafter stamp all our goods.

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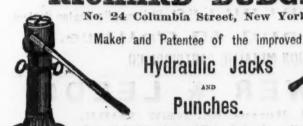
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Door Springs, Pad Locks. Trunk Stays, O Keys, &c., &c. Dead Latches, 110 South 8th St., and Sansom, bet. 8th.

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NEW YORK.

The Albany and Bensselaer Iron and Steel Company have decided to build a new cupola at the Bessemer Steel Works. The supplementary machinery at the steel works is more than sufficient to dispose of the iron melted in the three furnaces, and no addiwill cost about \$6000. It will be similar in model and dimensions to those now in use. The four will be capable of melting about \$500 tons of iron a week.

All departments of the Burden Iron Works, All departments of the Burden Iron Works, at Troy, are in operation at full capacity.
The loss incurred by the fire at the Pough-keepsie Glass Works, on Dec. 2, was not nearly as great as was reported, being only about \$70,000, of which \$60,000 was covered by insurance. The owners of the works are Ely, Son & Hoyt, part of the capital being supplied by persons in Clyde, N. Y. The works will be rebuilt.

NEW JERSEY.

Whitall, Tatum & Co., at Millville, have now seven flint glass furnaces in operation, with an eighth fired up and almost ready to commence work. They employ in these works about 1000 hands.

PENNSTLVANIA.

Chester and Montgomery County papers have published an item that the plumbago mines and works of the Pennsylvania Graphite Company, near Byers Station, Chester County, had been sold to a party of gentle-men in New York, who will take possession on the 1st of January next. This is denied by members of the company in this city, although several members have sold out their

although several members have sold out their shares and retired, and a reorganization of the company is about being effected. The establishment will be controlled by Pennaylvanians, as heretofore. Most of the members of the company reside in Reading.

Atkins' rolling mill, at Fishbach, Schuylkill County, is now lighted by six electric lamps by the process of the Maxim Electric Light and Power Company.

The Sharon Boiler Works delivered three 7-ton iron and steel double-flue boilers to Kimberly, Carnes & Co. this week.

F. P. Heller, a prominent member of the Board of Trade, is at the head of a movement to organize a company with \$15,000 to \$20,000 capital, for the establishment of glass works in this city, for the manufacture of bottles or glassware. He says he will put of bottles or glassware. He says he will put in several thousand dollars if four or five other gentlemen will each take \$2000 or \$3000 worth of stock to start with. He remarked to an Eagle reporter last evening that he "knew glass works would pay." He has selected a site which, in his opinion, would be an excellent one for the manufac-

tory.—Reading Eagle.

It is reported that the Reading Iron Works It is reported that the Reading Iron Works intend to erect a large mill in Reading for the manufacture of iron pipe of different sizes for gas, steam, water and oil; that the old pipe mill on the south side of South street will be removed so as to give room for the enlargement of the rolling mill and nail works, and that the manufacture of nails, which has been expected for some time. which has been suspended for some time, will be resumed and conducted on a larger scale than ever before. An additional build-ing for same purpose will be erected on the eastern side of South Seventh street by the

company, as it is said they desire the privilege of laying another railroad track across South street at or near Seventh. The machinery at the Rockland Furnace has been removed, and will be sent to Vir-

ginia.

The Youghiogheny Water Works Com The Youghiogheny Water Works Company at Bradford is now in operation, the pipe being laid to the summit, 2½ miles, where the reservoir of 2,000,000 gallons capacity is situated. The pumps and engines, two in number, and of a recent patent, were manufactured by Cope & Maxwell, of Hamilton, Ohio, each having a capacity of 2000 pounds every 24 hours. The works thus far, including pumps, engines, pipes (20-inch), tankage, building, &c., have already cost the company the sum of \$75,000. The works are located at what is called the Slope Mine, where a neat and substantial Slope Mine, where a neat and substantial building, of a hard blue stone, 42 x 30 feet, has been erected, in which the pumps are now in operation. In this building there is a well 30 feet deep by 12 feet in diameter, walled up and cemented. From this well there is a tunnel 5 x 3 feet leading to the river, a distance of roo feet. In this tunnel the water pipe, 20 inches in diameter, is laid, which feeds the well from a natural basin in the river some 20 feet deep. To prevent the well from being flooded during high water there is a cut off in the feed pipe by which the water is regulated. The water here is the best and purest that can be found anywhere—pure Youghiogheny water fresh from the mountains. These water fresh from the mountains. These works now furnish water for the following coke works of H. C. Frick & Co., viz.: The Henry Clay mines, 100 ovens; Frick mines, 100 ovens; Morgan mines, 164 ovens; Foundry mines, 74 ovens; White mines, 148 ovens; Eagle mines, 80 ovens; Summit mines, 142 ovens. Besides the reservoir at the Summit of 2,000,000 callons carrents. mit of 2,000,000 gallons capacity, there is already tankage along the line of 1,110,000 gallons capacity.

There were manufactured at the nail fac-tory of the E. & G. Brooke Iron Company in November 21,000 kegs of nails. The shipments for the same month amounted also to just the figure, 21,000 kegs. The de-mand still continues brisk, and the works are running to their full espacity. The report clipped from an exchange and published in our last regarding the rebuild-

ing of the stove works of Keely & Co., at Spring City, is incorrect, as Mr. Keely himself informs us that as yet even the site of the works has not been decided upon, though the works will certainly be rebuilt. The works may be rebuilt in Norristown.

The company formed to lease and operate

the Clara Furnace, at Newcastle, consists of Messrs. J. N. Glidden, of Cleveland, and Henry Wick, Myron O. Wick and Robert Bently, of Youngstown, Ohio. The furnace has been overhauled and put in complete working order. It was formerly operated by Raney & Berger.

PITTSBURGH AND VICINITY. Bozenzie, Maloney & Co. have quite a Ashland Furnace is still in fine working aumber of orders en hand for their glass condition, making in seven days 438 tons

large and prosperous business on an old and house pots, and having a fair stock now favorable reputation.

Elsewhere will be found an extended account of the burning of Graff, Bennett & Co.'s Millvale mill. The official report of the insurance makes it \$164,000. The loss

is not yet exactly known.
O'Leary, Beck & Co, are running full time on window glass, and report trade very good for the season. Their works are at Monon-gahela City.

The new plate-glass works at Hites Sta-tion are in full operation. They cover eight

acres of ground.

We are informed that Moorhead & Co.
are about to erect some new puddling fur-

naces.

W. McCully & Co. are running their two new furnaces on Twenty-eighth street full time and are pressed with work. This factory was entirely rebuilt last summer, and is now one of the finest in the country. On the evening of Friday, the 9th, a boiler explosion occurred at the works of the Keystone Rolling Mill Company, limited, on Second avenue, near Soho. There were three batteries of boilers in the mill, and the explosion occurred in two of the middle battery. The destruction caused was very great, pieces of the boilers being thrown for tery. The destruction caused was very great, pieces of the boilers being thrown for great distances, and showers of bricks falling in every direction. The boiler house was torn to pieces, and the blacksmith shop totally demolished. About eight men were injured by the explosion, one dying instantly and another the next morning. At the Corporary inquest the chief engineer testified. and another the next morning. At the Coroner's inquest the chief engineer testified that the boilers, although old, had been recently inspected and found to be in good condition; that they had been repaired a few days before the explosion, and that when he left the boilers on the evening of the explosion there was plenty of water and the valves were all right. The manager and

the valves were all right. The manager and other employees also testified that they could assign no cause for the accident. The inquest has not yet been concluded. Repairs will at once be commenced, but the mill will necessarily be idle for some weeks. In addition to the ten new puddling fur-naces, mentioned in our last, which Wilson, Walker & Co. are erecting, they will shortly put up a three-high muck mill and a new

put up a three-high muck mill and a new engine and squeezer.

It is reported that Long & Co. (formerly Park, Long & Co.) will erect a rolling mill near McKee's Rocks, below the city. The report, however, lacks confirmation.

Singer & Nimick are building another melting shop in connection with their steel works. The size of the building will be 40 to feet.

c 60 feet.

OHIO.

The Springfield Malleable Iron Works, at Springfield, have been crowded with work all this year, and the present prospect is for a still heavier trade next year. The immense malleable iron works of the Champion Mower and Reaper Company have also been running to their full capacity to supply castings for the company's machines, and at the present rate of the production of Champion machines, these works will have to be materially increased in capacity during the coming year.

the coming year.

The Irondale Furnace, near Steubenville, has been sold by the sheriff to Henry M. Long, of Pittsburgh, for \$46,340. The purchase includes 1000 acres of coal and ore lands, with furnace, rolling mill, houses, &c.,

all in good order.

Howard Furnace will likely get her repairs completed and blow in the latter part of this week.

Ground will be broken Monday for a blown glass works at the corner of Slack street and the Panhandle Railroad. The

blown glass works at the corner of Slack street and the Panhandle Railroad. The plans call for a building 40 x 60 feet, and will be enlarged somewhat over these dimensions, which do not include sheds. The stack will be 30 feet high, with enough shops to employ 40 hands. Fine blown glassware will be made, especially fine goblets. Wm. Fox & Co. are the proprietors, and Ed. Nicholson and Robert Hyde have the contract for building.—Steubenville Gazette.

The Tiltonville people appear to have become dissatisfied at the lack of energy shown by the Wheeling Mutual Glass Company, and a delegation came down during the week to obtain the deed for the property at Tiltonville, which was in the hands of some of the stockholders here. They propose, as we are informed, to pay off all claims against the property, and offer it as a free gift to any party or firm who will push the project to completion. We hope this liberal offer will find a taker.—Martin's Ferry Times.

The Akron Iron Company have contracted with the Churchen.

with the Cuyahoga Works, of Cleveland, for one of their large rolling mill engines to take the place of their present engine, which has become too small for their increased demand. The company's business on their patent hot-polished shafting is constantly

Portsmouth Foundry and Machine Com-pany have the contract for the castings for a large furnace at Goshen, Va. The Tyler Hoe and Tool Works are to be sold.

WEST VIRGINIA.

On the night of the 11th the machine shop belonging to the Whitaker Iron Works, Wheeling, was discovered to be in flames. The shop was a wooden building, about 40 by 60 feet, situated on the creek, between the office and the mill, and contained planes, lathes, drills and a swall steam engine. No definite theory is advanced convenient. definite theory is advanced concerning the cause of the fire. The fire department responded promptly, but were unable to save anything on account of the rapidity with which the building burned, it and its contents being completely destroyed in half an hour. The loss is estimated at \$2500, fully covered with insurance, which is distributed among a number of companies.

KENTUCKY.

During the week ending December 3 the Norton Iron Works made 4175 kegs of nails and shipped 5700 kegs. The furnace during the week made a daily average of 50 tons of good pig iron. The shipments of pig iron amounted to 223 tons.

Hunnewell Furnace, Greenup County, is still torming out har usual average of some

still turning out her usual average of some 17 tons per day.

D. SMITH & CO.

Plantsville, Conn.,

Manufacturers of the

BEST QUALITY CARRIAGE MAKERS' HARDWARE.

Manufacture the Largest Variety of Forged Carriage Irons of Best Material and Workmanship.

PRICES LOW FOR QUALITY OF WORK FURNISHED.

PRICE

The Saranac Nails are hammered hot and the finishing and pointing are done cold. Quality is fully guaranteed. For sale by all leading iron and hardware houses. S. P. BOWEN, President and Treasurer. PLATTSBURG, N. Y. W. S. GUIBORD, Secretary.

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FLOBERT RIFLES, Plain and Remington System.

BRITISH BULL DOG REVOLVERS. 38, 44 and 45 Calibre.

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Malleable Iron and

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JOHN BAYLISS' CELEBRATED HURRICANE BELLOWS, LITTLE GIANT" PORTABLE FORGE and BELLOWS, HOT BLAST AND WATER TUYERE IRONS,

HORSE SHOERS' PINCERS and SHOEING HAMMERS. TURNING HAMMERS AND SLEDGES, and CONTRACTORS' TOOLS.



All Steel, Blade 12 inches Wide.

Just the Hoe for Cleaning Streets, Alleys, Warehouses and Docks.

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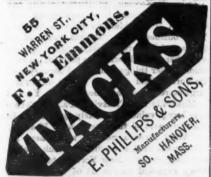
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Calkers', Carpenters', Stone Cutters' MALLETS,

awsing Beetles, Hawsing and Calling Irons all kinds of Handles, Sledge, Chisel and Handles, Also COTTON AND BALE HOOKS.
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MECHANICAL PURPOSES. RUBBER BELTING and PACKING.

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Plain and Rubber Lined.

Circular Woven-Seamless Antiseptic RUBBER LINED "CABLE" HOSE and "TEST" HOSE, Vulcanized Para Rubber and Carbolized Duck, for the use of Steam and Hand Fire Engines, Force Pumps, Mills, Factories, Steamers, Ships, Hospitals. &c



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Solid Vulcanite EMERY WHEELS LARGE WHEELS MADE ON CAST-IRON CENTER IF DESIRED

The properties of these Wheels are such that they can be used with great advantage and conony cutting grinding, and finishing Wrought and Cast Iron, Chilled Iron, Hardened Steel, Slate, Marbless, etc. These wheels are extensively used by manufacturers of Hardware, Cuttery, Edge Tools, was, Safes, Stoves, Fire Arms, Wagon Springs, Axles, Skates, Agricultural Implements, and smalthingry of almost every description.



BEST IN THE WORLD.

For Packing the Piston Rods & Valve Stems of Steam Engines & Pumps

B represents that part of the packing which, when in use, is in contact with the Pistor rod.
A the clastic back, which keeps the part B against the rod with sufficient pressure to be seed a vet creates but little friction.

This Packing is made in lengths of about 20 feet, and of all sizes from 1/4 to 2 inches square.

Corrugated Rubber Mats and Matting,



For Halls, Flooring, Stone and Iron Stairways, &c.

This practical and indispensable article—especially for wear where exposed to ice, snow or slush—was first introduced by this company several years ago, and its real value is in being almost indestructible; when proper materials are used in its manumeture, whilst the cheap, public by reckless imitators of our patent goods soon becomes brittle



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CUT TACKS, SHOE NAILS. WIRE NAILS Pat. Brads, Finishing Nails. Clout Nails, Trunk Nails, Hungarian Nails, Cigar-Box Nails, Basket Nails. 2d and 3d Fine Nails, Carpet Tacks, Upholsterers Tucks, Gimp and Luce Tacks, Brush Tacks, Copper and Brass Tacks,

BRASS AND IRON ESCUTCHEON PINS, &c., &c. MANUFACTURED BY

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PHOSPHOR BRONZE SPRING WIRE AND WIRE FOR WEAVING, &c. Pump Rods, Tubes, Jack Chains, Screws, Rolled Bolts, Nails, Wire Cloth, Sash Cords, Boat Nails, Sheets, Pens, Wire Ropes, Plates, Sash Chains, Cast Kettles. Tacks,

INGOTS FOR CASTING.

Send for Pamphlet and Price Lists

PHOSPHOR-BRONZE.

and a fraction over one-fourth of a ton. The shipments of iron from this furnace during the week ending Dec. 3 amounted to

Pennsylvania Furnace is doing good work, making a daily average of about 13 tons of excellent iron. Her present blast will prob-ably close early in February.

GEORGIA.

The foundry and machine shops of Stevenson & McIntyre, Cartersville, will soon commence the molding of car wheels for the car factory. They have orders far

ALABAMA.

The Woodstock Iron Co, have bought the furnace, real estate and stock of the Alabama Iron Co,, paying \$100,000 for it. The furnace is located 10 miles south of Anniston. This trade gives the Woodstock Iron Co, three furnace all mekingers when ton. This trade gives the woodsood and car-wheel iron, and an estate of 40,000 acres of wood and mineral lands, with control of one of the finest deposits of brown ores in the

Furnace No. 1, at Rockwood, has been finished and dried out, ready to start. It is thought it will make at least 50 tons of iron

thought it will make at least 50 tons of iron per day.

The South Pittsburg furnaces are compelled for want of coke to run on short time. The company hope soon to have the road through to their immense coal and iron beds. The Warner Furnace, in Hickman County, which was recently blown in, is 11 x 55 feet, will tarn out, as a charcoal furnace, 20 tons of iron per day, but as a hot blast furnace its capacity would be from 40 to 50 tons per its capacity would be from 40 to 50 tons per day. Four hundred men are employed in and about the furnace.

and about the furnace.

The Wilder Machine Works at Chattanooga have been leased for a term of years by S. B. Lowe & W. A. L. Kirk. These works are well equipped and will doubtless have plenty of orders to fill.

The Union Iron and Steel Company are erecting a one-story boiler house, 65 x 125 feet, also merchant iron mill, 208 x 170 feet. on Ashland avenue, near Archer, Chicago, to cost \$25.000.

Messrs. Shumway, Burgess & Co. are put-ting in their works three new bolt headers.

ting in their works three new bolt headers. They are very full of orders.

The Northwestern Screw Co., of Chicago, a new organization, now occupy their new building on Loomis and Taylor streets, 50 x 80 feet, and have put in improved machinery for manufacturing all kinds of wood screws and special lines of steel, blued and brass screws for railroad work, for which they are now prepared to fill orders. The company is incorporated with a capital of \$50,000, with C. F. Wardell, president, and H. N. Hinekly, secretary and treasurer.

\$50,000, with C. F. Wardell, president, and H. N. Hinckly, secretary and treasurer.

Messrs. Samuel Reid & Co., Chicago, manufacturers of the improved Reid lubricator, report they are very busy shipping their lubricator to all parts of the country. They are at present turning out 100 a month, which, with the increased facilities they are

ow arranging for, will be increased to 200, The Chicago Steel Horse Shoe Company are making a number of additions to their are making a number of additions to their plant at Kensington, to include 14 new drop hammers, two of which will be the largest in the country used for that purpose, their bases weighing 10 tons each, and hammers 2500 pounds each. They were manufactured by the Columbian Iron Works of Chicago. They are also putting in a number of manufactured by the columbian tron works of the columbian tronger was a second to the columbian tronger works of the columbian tronger work They are also putting in a number of ma-chines from the Pratt & Whitney establish-ment for doing all kinds of drop forging, four new bending machines, one 200-horse-power engine, in addition to the one already in use, six trimmers and six punching ma-

The Calumet Iron and Steel Company have under way, at the works formerly owned by Messrs. Jos. H. Brown & Co., at Irondale, a number of additions, improve-ments, &c. To the nail department is being added an extension to the present building, which, when completed, will give them one of the largest nail factories in the country or the largest nail factories in the country; its dimensions will be 308 feet in length and 100 feet in width. In this they will have running 150 machines, an increase of 63 over the number now employed, giving them a capacity of 1400 kegs of finished nails per day. The bar and plate mills will be enday. The bar and plate mills will be enlarged from a capacity of 110 to 175 tons per
day, for which are now being erected 16 additional puddling furnaces, making 48 in all.
They have also ordered 20 extra gas producers (Siemens' patent). The blast furnace,
18 x 75 feet, and now producing 100 tons a
day, will be increased to 125 tons as soon as
the additional engine, with an 84-inch blowthe additional puddling furnaces, making 48 in all.

They have also ordered 20 extra gas producers (Siemens' patent). The blast furnace, and have the machinery under
way. We are preparing to put on a night
turn on the Denver Rolling Mill, at Denver,
for rerolling iron rails and making bar iron.

We cannot keep up with the demand without doing this." day, will be increased to 125 tons as soon as the additional engine, with an 84-inch blowing and 38-inch steam cylinder, now in course of erection, is in running order. Four new hollers will be added to the battery of 32 now in use, besides a number of minor improvements. The company now employ over 900 hands, day and night, and report a season of prosperity never enjoyed. report a season of prosperity never enjoyed by the former owners. The Idinois Zinc Co., of Peru, have taken

possession of the old buildings and furnaces of the Kinsman Zinc Factory of LaSalle, which have been standing idle for over a year, and intend running them in connection with their very extensive works at Peru. The company's new rolling-mill building is virtually finished, and the engine, one of some 300 horse-power, is being set up. The rollers and their machinery will PHILADELPHIA, PA.

up. The rollers and their machinery will be delivered soon. Palmer & Kerr's plow factory is to be removed from Waukegan to Winona, Min-The Union Foundry and Machine Co., of

Rockford, gives notice to the Secretary of State of an increase of its capital stock to

with wing 20 x 40 brick, two stories, is 3000 tons per annum.

INDIANA

The Atlas Engine Works, of Indianapolis, are to furnish Messrs. T. R. Allen & Co., of that city, with one of their standard co-horse-power engine and boiler outfits complete for their new sawmill in Kentucky. They have also just received an order from H. C. Long for a 40-horse-power outfit complete for a similar purpose.

The Indianapolis Steel Rail Mill have just purchased an engine and boiler outfit from the Atlas Engine Works.

WISCONSIN.

The new addition to the Whitaker Engine and Skein Works, Kencsha, is finished and the machinery in place.

MISSOURI.

The Missouri Stove Foundry Company (Gage's) have secured a suitable location for their new works on the south side of the old Manchester road, between Missouri and Chouteau avenues, and are now preparing to build at that place. Their foundry has been begun, the cost of which will be \$10,000.—Age of Steel.

The works of the Helmbacher Forge and Rolling Mill Co. are being pushed to their utmost capacity on car axles and coupling links and pins.

utmost capacity on car axles and coupling links and pins.

The St. Louis Stamping Company are erecting additional works on their premises in St. Louis which will cost about \$5000.

A St. Louis press dispatch says the consolidation of iron manufacturing companies, under the title of St. Louis Steel and Ore Company is almost perfected. The total under the title of St. Louis Steel and Ore Company, is almost perfected. The total stock is \$5,000,000, of which the Pilot Knob Company has been allotted \$1,472,000, and the Vulcan Company \$1,164,000. In addition, the indebtedness of the Vulcan Company, consisting of 8 per cent. mortgage bonds of \$1,000,000, due in 1885, has been assumed by the coalesced corporation. The Grand Tower Mining Company's estate will be sold under mortgage and purchased by the trustees, and its rate will be apportioned to a capital of \$1,000,000. The capital not allotted, \$1,354,000, will be retained in the treasury. It is said the Vulcan will be converted into a steel rail mill of capacity sufficient to supply the Gould syndicates of the Southwestern railroads with rails at the very lowest cost. very lowest cost.

A. Leschen & Son, St. Louis, received four first premiums at the St. Louis fair this fall for the best displays of wire rope and cordage, hemp packing, bell and sash cord and twine. They report a heavy pressure of orders.

The Michigan Car Company's Works, at The Michigan Car Company's Works, at Detroit, covers 25 acres of ground and employs 2000 men. The Detroit Car-wheel Company, the Detroit Iron Furnace Company, and the Baugh Steam Forge Company are auxiliary concerns. The magnitude of the operations of the Michigan Car Company may be imagined when it is stated that it will complete this year about 6000 freight cars, requiring in their construction over 30,000,000 feet of lumber, and between 40,000 and 50,000 tons of iron and steel. 40,000 and 50,000 tons of iron and steel. The repair work done by the Michigan Car Company aggregates about \$500,000 per annum. The Baugh Steam Forge Company manufactures 40 tons of iron per day, and turns out 100 axles. The business of the three companies enumerated above will aggregate at the lowest estimate \$6,500,000 this year—a showing that is probably une-qualed by any similar works in this country or in England. The Detroit Car-wheel or in England. The Detroit Car-wheel Company is making 300 perfect car wheels per day, a total during each morth of 2000 tons of wheels, in addition to a daily product of about 80 tons of miscellaneous castings

for cars, locomotives, &c.
The Michigan Carbon Works, of Detroit, have just placed two more link belt elevators from Chicago in their new works, making seven in all.

The blast furnace at Florence was damaged slightly by fire on Saturday, December The loss was nominal.

Repairs are being made to the Pacific Furnace, with a view to the relighting of the fires at an early day.

COLORADO.

Robert H. Lamborn writes to the Bulletin

LABOR AND WAGES.

The Iowa miners have held a convention and appointed a State organizer at \$65 a month and traveling expenses. They drafted a bill for the creation of a Bureau of Labor Statistics and recommended the adoption of the 9-hour system.

the c-hour system.

The boys at the Cohansey (N. J.) Glass works were on strike for an advance of wages. They were out three days. The firm gave some of the oldest boys their wages, and the rest resumed work at the old

wages.

The striking coal miners of the Belleville, Ill., district have asked that a committee of business men of Belleville, not concerned in the coal trade, be appointed to settle the dif-ference now existing between the minera

and operators by arbitration.

Mrs. Chisholm, widow of the late Henry Chisholm, Cleveland, Ohio, ordered all hands paid for the four days' time lost at her husband's death.

Sagooo.

The proprietors of the Northwestern File Works, of Chicago, are engaged in making extensive additions to their establishment. The augmentation in machinery will greatly increase the facilities of the works.

The Berger Tool Co., of Batavis, has been organized with a capital of \$10,000.

The Superior Barbed Wirs Co., of DeKalb, commenced operations Sept. 1, employing 16 men, and have just added 20 more automatic barb wire machines. Their works are those formerly occupied by I. L. Ellwood & Co., and have room for 40 machines. The capacity of the works, which are 80 x 150

Metallurgical Review.

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The London Times, speaking of our tariff, reminds British manufacturers that it would be unwise to deceive themselves with the expectation of any speedy movement toward free trade in America, and adds: "Some "day the Americans will recognize the " futility of battling against economic law " and will perceive the waste of nations " energy which protection involves." Well perhaps this is true; but while we are enjoy ing substantial material benefits from ou futile battle, and developing a mighty national energy under a policy which makes labor honorable and production profitable we are not likely to regard protection from a British point of view. There may come a reserve.

time for us, as it has come for England, when protection would be ruinous and all our interests would depend upon free trade with other countries. If so, there is every reason to believe we shall recognize our best interests when we see them. That is just what we do at the present time. It is extremely difficult, however, to convince our English friends that the average American citizen is not one of those who "don't know his daily bread when he sees it."

The Gold Drain in Its Effect on Europe.

In an article headed "Production of the Precious Metals and of Quicksilver," published in our issue of November 3d, we availed ourselves largely of Dr. Soetbeer's gold and silver statistics. This gentleman has recently addressed a letter to a leading Vienns paper, entitled "The Gold Drain to the United States," which we find valuable, not only on account of the correct statistics and appreciation of our monetary situation it contains, but in view of the conclusions the learned professor arrives at. After showing that the public debt of the United States has been reduced from \$2,756,430,000 on August 31, 1865, to \$1,840,599,000 on July 1, 1881, while the interest thereon fell from \$150,-978,000 in 1865 to \$75,019,000 in 1881, and the income increased from \$322,031,000 in 1865 to \$363,500,000 in 1881, he shows that the surplus of export over import rose as follows, in the fiscal years belo

20120 11 07		Jeans bears .	
			\$26,300,000
			151,200,000
			257,800,000
			264,600,000
z880	,	**********	167,700,000
1881	******	*********	#59,700,000
Total			127,300,000

As the gradually lowered interest on United States bonds and the high price they nevertheless commanded, caused European holders to return them for sale while Europe drew from here large excess of products; the reduced remittances of gold to pay interest on our bonds there caused the import of the precious metals to square balances with us to greatly exceed our export thereof during the last two years, as shown by the following table.

PRECIOUS METALS-MILLIONS OF DOLLARS.

T. Inches A creeze	ALLEDOT C.	ANADOTO,	
1869-73-Average		75.6	XX.X
1874-76-Average	21.8	71.8	50.0
1877	40.8	50.3	- 16.4
1878	29.8	33-7	- 2.0
1879	90.3	25.0	4.7
x880	93.0	17.1	- 75.0
1881	98.6	7.4	-01.2
W 49.1			9

In this manner a gold drain was started, depleting the European banks and causing a corresponding accumulation of gold and silver in the United States. In 1876 the Bank of France, for example, held 1,530,-000,000 francs in gold; on October 6, 1881, it held only 6e7,000,000. In the United States, on the other hand, the stook of coin

Stood as Tollows .		
	Gold.	Silver.
June 30, 1873	\$135,000,000	\$5,000,000
June 30, 1874	162,200,000	8,800,000
June 30, 1875	140,300,000	16,600,000
June 20, 1876	153,500,000	33,400,000
June 30, 1877	193,900,000	51,800,000
June 30, 1877	247,400,000	80,400,000
June 30, 1879	286,500,000	113,100,000
May 1, 1881	520,000,000	179,000,000
A makk an maniant anti-		.,-,,

Another report estimates that from January 1879 to July 1, 1881, gold circulation nereased in the United States \$262,000,000 while there were coined \$70,000,000 of silver, which would agree with the above It is also estimated that for industrial purposes the consumption of gold has of late largely increased, amounting at present to \$1,000,000 per month. In view of all the facts, Dr. Soetbeer gives it as his opinion that during the next few years the gold drain from Europe to the United States may possibly continue unin-terrupted, if the trade balance in its general features remains as it has been the last three years, but the volume of the drain, he adds, is bound to decrease in consequence of the preference given to paper money in the United States in every-day use, and the excessive accumulation of gold in banks which will result therefrom. It cannot be supposed, he says, that the American banks, already feeling uncomfortable with a gold stock of only \$115,000,000, will quietly permit a notably larger accumulation. On the contrary, they will endeavor to find a more profitable employment for this gold surplus elsewhere. The consequence of a plethora of gold in America and a continued dearth of it in Europe would forcibly depress the interest rate there, while causing a rise in prices and wages, but in Europe, on the contrary, both prices and wages would decline, and at the same time interest would advance, though the facility of trade and credit exchanges between both hemispheres, and the international character of enormous amounts of solid securities would, of course, gradually bring about an equalization. The time it may take, and the many disturbances that may intervene before such an equalization will finally be reached, it is useless to try to predict, but the eventual restoration of the equilibrium is nevertheless certain to come. A universal scarcity of gold cannot take place, since between 1849 and 1880 such enormous quantities of it have been taken from the earth and thrown upon the world's markets, even if the production of gold should n the future sink to an average of less than \$100,000,000 annually. A more moderate production of gold need not cause any apprehensions as to the stability of the purchasng power of money. Where solid banking and a solid system of credits prevail, the real circulation of gold coin in general intercourse will have a tendeucy to decrease. and gold will chiefly be used as a bank

The learned professor then attacks bimetallism, winding up with the following remarks: "We are unable to understand how bimetallism can be made to improve in favor of Europe the balance of pay-"ments between it and the United States, and thus prevent the gold drain to America. Should Germany, for example, either by virtue of an international treaty or without such, resume the coinage of " silver at the rate of 15 % silver fer I gold, its entire stock of gold coin would, within " a short space of time, flow from Germany to the United States and England. Ger many would then be reduced to the sole silver standard, and, as matters are at present, it will be as good if the United States continue to coin monthly \$2,300,000 in silver dollars for some years to come. Meanwhile, it will be advisable that the authorities at Berlin avail themselves of the opportunity for selling out for account of the empire about 200,000,000 marks worth of silver thalers. The Imperial Bank of Germany should do its utmost to bring about this sale, for, as matters stand in the United States, it is well that Germany should get rid of the old silver. This goes to show that Dr. Soetbeer has studied the monetary question very thoroughly, and that he indulges none of the dangerous illusions of those who advocate bolstering up silver by legislation.

Mr. Morrell on Steel Blooms.

We do not like to base criticisms or comments on a partial knowledge of facts and of the reasons for them, but we confess some surprise at the information which reaches us to the effect that Hon. Daniel J. Morrell has appeared before the Secretary of the Treasury in the steel bloom inquiry as a witness to support the claim of the importers that steel blooms should not pay a higher duty than 45 per cent. ad valorem. We are informed that Mr. Beaman, who represented Messrs. Clark, Post & Martin, introduced Mr. Morrell in words to the following effect : "Here is a gentleman who two years ago appeared at the head of a delegation claiming that all " steel blooms should pay a duty of 21/4, but who now comes to say that our posi-"tion was right and that they should pay a duty of 45 %." Our Washington correspondent informs us that Mr. Morrell's change of front caused much surprise among the old Treasury officials who were present.

The verdict of the trade will probably be that Mr. Morrell's present position is inconsistent with that assumed by him two years When Mr. Morrell came before the depart ment in 1879, with other manufacturers of steel, to oppose a Treasury ruling which would admit steel blooms at a lower rate than 21 cents, his argument, as we remember it, was based solely on the effect of such a ruling upon the industries of the country. He gave his reasons for believing that a change in the duty would be attended with widespread disaster to the Bessemer steel interest, and would throw out of employment 100,000 men then earning \$55,-000,000 a year in wages, besides imperiling large amounts of capital invested in mines furnaces and steel plant. We did not think this a proper line of argument to address to the Treasury officials, whose only duty is to correctly interpret the law and enforce its provisions, and we said so at the time. What Mr. Morrell then thought as to the meaning of the law, he stated very fully in an interview with our reporter, published in The Iron Age of November 6th, 1879, from which we quote as follows:

Reporter .- I should like to know, Mr. Morrell if you have any criticism to offer upon the recent decision of the Treasury Department fixing the duty on steel blooms at 45 per cent. ad valorem?

Mr. Morrell.—I think it is all wrong, and certain to be very injurious. The Bessemer steel blooms brought in under this decision are partially manu-At as per cent. duty will be about one-half of z cent per por while rails are charged 1% cents per pound. The difference in the duty on the two products is \$16.75 per ton. As these blooms can be made into finished ralls at a cost of about \$5 per ton, the result will be that great quantities of blooms will be imported to be finished here as rails. It is a serious blow to our iron and steel industries. R.—Is not the law as it stands obscure or un-

metrical? Mr. M.-I think not. It is true that steel ingots are rated at 2% cents per pound, while rails are 1% cents per pound, but when this duty upon ots was imposed Bessemer steel ingots were not known commercially, and it applied to cruci-ble cast steel, which is a more costly metal. I have never claimed myself that the duty of 21/4 cents on steel ingots should be applied to Besse-

-What are they ? R.—What are they? Mr.M.—Ordinarily they are produced in manufac-turing steel rails. The steel as cast in its first form is called an ingot, which is reheated and rolled own to a convenient size, and cut to proper ngths for rolling at another heat into railroad ars. When so cut to lengths for one or more rails these pieces are called blooms, but they might be called bars, unfinished rails, or by an other name. You have in the bloom fully eight ninths of the labor and expense of producing

R.—Are they not used for other purposes than

rails?
Mr. M.—They are, but it is well known that the importations are for manufacture into rails. The duty on rails is the lowest imposed on any manu facture of steel, and the importer of blooms therefore, could not compilain if this duty were imposed on his blooms, especially if he proposes to use his blooms for articles of higher cost and bearing a higher duty. The appearance of the bloom, its shape, the method of its manufacture and the use generally made of it, stamp it as an unfinished rail. If one is very anxious to see something else in it he can do so, but that, at least, must be seen, unless blindness is willful. R.-I observe that Judge French concedes

R.—I observe that Judge French concedes this, but says the rail duty would be prohibitory, and should not be adopted unless-the demands of the law imperatively require it.

Mr. M.—A very poor reason I think. The object of the tariff is not to encourage importations, but to afford protection. Its protective character is strongly marked in the almost invariable advance of duty as the article is advanced in value. The duty on rails does not prohibit their importation; they are coming in, and Judge French merely allows steel to be brought in, in blooms, at an excessively low duty, instead of rails at a duty which the article can bear. Unless the result is an enormously increased importation, the Government will lose revenue, and if there is an enormous increase, the injury to business will be such that the Government and the country must, in the end, suffer by it.

Carefully examining the above, we find

Carefully examining the above, we find that Mr. Morrell was evidently impressed with the idea that, whatever the law, it should be interpreted and administered by the Treasury Department in the interest of domestic manufacture. This is an opinion which, we think, might easily be changed on reflection; but from such information as we have at command at this time, we are not prepared to say that Mr. Morrell's opinion as to the duty the law imposes on steel blooms is not the same to-day as it was in 1879, when he distinctly said: "I have never claimed myself that the duty of 21/4 cents on steel ingots should be applied to Bessemer blooms."

Liability of Commercial Agencies for False Ratings.

A case of much importance, defining the iability of commercial agencies for misinformation given their clients, is now on trial in England. It is one in which the proprietors of Stubbs' Mercantile Agency have applied for a new trial, on an issue decided against them, with a verdict for £309. 7/6, a short time ago. In the original case the defendants were sued by Mr. Norderberg, the London agent for the Rosendale Fabriker Actie Bolog, of Gothenburg, Sweden, for losses sustained by him owing to the alleged negligence of the agency in sending him what proved to be an inaccurate report as to the solvency of a firm inquired after. The plaintiff subscribed to Stubbs' Agency, and asked them if a firm styled "J. & C. Christie," of Glasgow, were good for a credit of £300. The defendants' answer was: "Our inspector reports-Some time in business as commission agents; "considered respectable, and reputed good for the amount." The plaintiff, therefore, gave the credit asked for, but it subsequently transpired that there was no such arm in existence, but only one person, named James Christie, constituted it. He ago. We do not know, however, that this had suffered sequestration in 1870; had verdict could be fully sustained by the facts. 4/3 in the pound, which had never been paid; and had since suffered a second sequestration. Mr. Norderberg, having lost the amount for which he trusted Christie. sued Stubbs' Agency, and, as stated, obtained a substantial verdict. The application for a new trial made by the defendants relied upon certain provisos in their prospectus and a foot note printed on their memoranda forms, the latter stating: "In furnishing information, no guarantee is given against the possibility of mistake or loss." this foot note the whole question virtually centered, and the court naturally took time to consider the matter prior to delivering judgment.

A very similar case has lately been decided in the New York Court of Appeals. The plaintiff had sold goods on credit to a firm on the strength of a favorable report from Dun, Barlow & Co. This report was based on information given to the agency by one of the members of the firm, and was subsequently found to be false. A cross-action was therefore entered "for deceit" against the firm who obtained the credit. defense was that there was no liability because the representations had not been made direct to the selling house. The Court of Appeals held that this was not a valid lefense, and that an action would lie agains any person making false representations to a commercial agency by any subscriber to such agency who had been thereby deceived. Such cases are of immense importance to the business community, as the commercial agency has become an important part of our business system, and the value of its ratings will never be accurately known until the exact measure of liability for false or misleading information is determined. It is also important that business men should know what recourse they have against agencies which give them an undeservedly low rating, and how far such misinformation can be covered by the plea of "privileged communication." is true that the information given a subscriber is intended to be confidential, but it usually creates an impression in the mind of the person to whom it is given, and is very likely to influence the opinions he may be called upon to express, as well as his own policy in dealing with the house unfavorably rated. It is extremely difficult, of course. to fix the nature and extent of injury done by an unfavorable report, for the reason that if it leads to disaster or embarrassment the statements of the agency, and any distrust thereby created, would be vindicated by the actual happenings. Decisions bearing on these questions are of great interest to the business community, and the fact that so few questions of this kind have come before our courts reflects much credit on the general management of our commercial

Responsibility of Directors.

The recent disclosures of fraud and misanagement in national banks at Newark and Boston are availed of by Mr. Knox, Comptroller of the Currency, to call special attention to the duties of directors in such institutions. Directors are responsible for the funds committed to their care, and if it can be shown that they had notice of illegal transactions, it is a serious question whether they are not bound to make good not only any direct losses that may occur, but any other losses resulting from a heglect of duty. The Comptroller contends that the bank examiner must necessarily depend on the directors for a thorough analyzing and scrutiny of accounts, to be made periodically by a competent committee. Moreover, it is the duty of directors to keep themselves informed of the habits and character of their employees, lest they engage in speculations or become lax in the performance of their duties. In the case of the Newark bank, the examiner was deceived by forgeries which the most thorough experts might have failed to detect, and with reference to the Pacific National of Boston, the directors are said to have had full information of the irregular and illegal methods which led to its ruin. The Comptroller recommends an amendment to the law, making it a criminal offense for an officer of a bank to make loans clandestinely, by the use of certificates, as in this latter case, or otherwise. It is well that our business men, merchants and others who act as directors in our fiduciary institutions, should fully comprehend the duties which they assume. Their names cannot be used merely as ornamental appendages, to attract depositors and bolster

Railways in Mexico.

The information laid before the Government of Mexico on the 16th of September, shows that the work of building railways is being vigorously pushed in many parts of the country. When the various schemes are completed and communication is thoroughly established between the different centers of importance, the benefit resulting to Mexico will, no doubt, be considerable. We may also look for some advantages to be experienced by other countries from the development of this rich and fertile land. There is room for doubt, however, whether the capitalists who embark their money in these roads will speedily reap a correspond-ing amount of benefit. From the City of Mexico lines are being constructed in three or four different directions-to the North to Queretaro, to the West to Toluca, and thence to Morelio, while 137 kilometers (about 85 miles) have been completed from the capital to Cuantla. In the extreme North, operations have been commenced at Passe del Norte, and in the South we find considerable progress is being made upon the Tehuantepec Railway. At Guaymas, on the Gulf of California, So kilometers (about 50 miles) of line are finished in connection with the Sonora Railway, while at Merida, Vera Crus, Puebla, and other parts of the country, the work of construction appears to have been energetically prosecuted. In addition to these lines and in accordance with a law passed in May last, the Government had granted sixteen concessions for new railways. This development will do great things for Mexico, without doubt, and unless her natural resources have been overestimated, she should soon attain a position of great financial strength. Almost all that is against her at this time is the character of her population, and her climate, which is evidently unfavorable to the development of an enterprising and industrious race.

Judge McKennan, of Pennsylvania, has rendered a decision in a bankruptcy case which is of considerable interest to New York business men. It was rendered in the case of De Forest Weld, assignee, against among other things, that in February last De Forest Weld was the owner of several large storehouses in Jamestown, N. Y., and in Meadville and Titusville, Pa., the property being valued at nearly \$200,000. the early part of the afternoon of March I, Mr. Weld made a general assignment for the benefit of his creditors, which assignment was made in New York State and was there recorded on the 2d of March. The assignment was also recorded in Crawford County, Pa., but not until the 18th of the same month. The plaintiff claimed that the assignment was valid to place the property out of the control of the assignor and beyond the reach of creditors when or at the moment the assignment was properly excuted and delivered. Judge McKennan held that notwithstanding the act of the Assembly of New York required an assignment to be recorded, it was the proper execution and delivery of an assignment that possesses title: and further, in view of the fact that there had been no explicit and unmistakable ruling in the highest court of that State, or no statutory provision clearly stating that the recording of an assignment was necessary to vest title, he declined to rule as requested by the defendants, and thereupon refused to grant the notion for compulsory nonsuit.

We are about to witness the disappearnce-if this form of words is admissibleof the last vestiges of the Centennial Exhibition, As we supposed, the scheme of a

permanent exhibition in the Main Building pded in failure, and now the structure still standing are to be taken away. The projectors of the 1883 Exhibition in New York-which, by the way, seems to have wholly fallen through-made a grand mistake in not buying this building. It could have been purchased, taken down, transported and set up again for a very small part of its original cost, and within the time at the command of the Commission. Where it was set up would have made less difference to the public than it seems to have made to the members of the Commission, Coney Island would have been an excellent site, meeting all requirements-except, possibly, those of land speculators interested in having it elsewhere. But it is idle to waste regrets for a mistake which cannot now be rectified. All the same, we do not think our business men and public spirited citizens did themselves any credit in allowing this undertaking to end in failure, leaving it to some other and more enterprising city to capture the next great exhibition.

The prosperous condition of our manu facturing industries is shown by the fact that during the past few months sundry lots of foreign machinery have been imported for use in this country. These importations include nearly all classes of machines for working metals, textiles, woods, &c., but especially such as are employed in the preparation of food products, such as chocolate, sausages, &c. The reason for this importation is not because such machines are not made in this country, but because orders for such as are needed cannot be filled by our machine shops within reasonable time. The machinery of the country is now driven to the breaking point, including the ma-chine tools used in making other machines, and production cannot be increased, for the reason that the machine builders cannot build or buy the machines needed to enlarge the capacity of their own shops. There is also a scarcity of labor, and skilled machinists are in great demand. Under such conditions it is natural that those who want machinery at once should go abroad for it if they can.

Outside of telegraphy, Mr. Edison seems to belong to the class of people who are always about to accomplish something wonderful. It is stated that President Villard. of the Northern Pacific, has made a contract with him to build fifty miles of railroad in Minnesota, on which he is to try the efficiency of his electrical engines for hauling trains. Judging from the results which have lately followed promises made in behalf of Mr. Edison, we are not disposed to be as sanguine of the success of this venture as his backers appear to be. He is an honest, industrious and most ingenious person, but he seems to lack the faculty of concentrating his efforts.

English papers express much satisfaction at the reported receipt of tenders from the United States for 27,000 tons of steel rai's for new roads now building in the Southwest, and intimate that "a slight advance " in price may be looked for, if it can be "brought about concurrently in the two " countries," If the American mills were out of the way, we should see something more than a slight advance, and it would not depend upon concurrence either. Indeed, it is interesting to speculate whether a reduction in the duty on steel rails would benefit the consumers any, or whether under the circumstances foreign makers would not demand and receive the full benefit of it.

Another coal vessel on fire and abandoned is reported, making the fourth or fifth dis-aster of this kind announced within three months. How many more have burned at sea without being heard from we do not know. The losses reported are mostly of ships cleared from Hull, England, showing the need of extraordinary precautions in carrying bituminous coal from deep mines.

Our Washington correspondent assures us Our Washington correspondent assures us that Judge Kelley will have the chairmanship of the Ways and Means Committee. We are glad of this for many reasons, for while we cannot agree with all the views held and expressed by Judge Kelley with regard to finance and internal revenue, we have the utmost confidence in his honesty and fidelity to the interests of the productive forms elsewed. ing classes.

The Consumption of Copper.—The Ontonagon Miner says: The consumption of copper is increasing at a rapid rate, far more so than most people are aware of. Large amounts are required in the manufacture of machinery, so much in demand by the rapid growth of the West and the impetus given to railroad building; also for the manufacture of cartridges, as breech-loading firearms are fast superseding the old muzzle-loaders. A new demand has sprung up in the plan being adopted by nearly all large cities, requiring all telegraph wires to be laid under ground. This requires the use of copper wire or copper-covered wire, and hence manufacturers have large orders to fill. One eastern factory is now using over 12,000 lbs. per week or 6,000,000 lbs. yearly, an amount almost equal to the yearly product of the Quincy and Franklin mines. This demand for copper wire will increase

WASHINGTON NOTES.

(From Our Own Correspondent.)

WASHINGTON, D. C., Dec. 14, 1881. The friends of Mr. Dunnell, of Minnesota on the strength of his having received three votes out of one hundred and forty-seven for Speaker, and on the additional claim for Speaker, and on the additional claim that he was formerly a member of the Committee on Ways and Means, have been making a desperate push for his appointment to the chairmanship of that committee. The movement is just enough to keep up an excitement and stir, but it is not thought by any one that Mr. Dunnell's ambition will be cratified in this direction as it is universe. gratified in this direction, as it is universally conceded that Judge Kelley is entitled to the place by experience and peculiar fitness. Pennsylvanians who have made inquiry on the subject have received fresh assurances from the Speaker's friends that assurances from the Speaker's friends that Judge Kelley will receive that chairmanship beyond a doubt. There is a great deal of scrambling after chairmanships among the upper strata of Republican Congressmen, but nothing could be more certain at the

Judge Kelley as Chairman of the Committee of Ways and Means, Mr. Dunnell and his friends to the contrary notwithstanding. There is little doubt also of the appointment of Mr. Hiscock as Chairmain of Appropria-tions. The Speaker is anxious to announce tions. The Speaker is auxious to announce all the committees before the Christmas recess, but is still in doubt whether he can

accomplish it.

The tariff question has taken an early The tariff question has taken an early start in the Senate, and a full and free ventilation of that subject may be expected periodically from this time forth until the session terminates. The speech of Senator Morrill, of Vermont, was regarded as an able statement of the whole case, and has already furnished the Democrats with a already furnished the Democrats with a supply of excellent texts. Senator Garland, of Arkansas, took the middle ground that neither protection nor free trade had any place in this country, and then argued that the tendency of protection was to build monopolies, which, in his judgment, were working great oppression. He favored reviewing the tagiff, but did not helicae in working great oppression. He favored reviewing the tariff, but did not believe in doing it outside of Congress. Senator Beck, of Kentucky, an irascible Scot, also took a turn at the crank, and with his usual vigor assailed the views of the Senator From Verment and reserved hisself in from Vermont, and pronounced himself in favor of tariff for revenue and nothing more. The fact is already apparent that the question of the tariff will not be disposed of in the Senate without a long and tedious debate. The Republicans are a unit tedious debate. The Republicans are a unit on the question favoring the fostering of American manufactures by judicious protection against the pauper labor of England. The Democrats are wholly broken up on the subject, and there is every reason to believe that they will not readily come to an agreement. ment.

Secretary of the Treasury Folger was introduced to the complications of the tariff and its interpretation, at a hearing a few days ago on an appraiser's assessment of 24 cents per pound on an invoice of a certain class of steel blooms. Strange to say, ex-Representative Daniel J. Morrell was on the side of the lower rate. In his previous visits here he invariably took the side of high duties, and therefore rather surprised the older Treasury officials who were present. The difference between the higher and lower rates was shown to be as \$50 to \$13.50. The question came up on an assessment of 2½ cents per pound on a lot of 2800 steel blooms for rails for Carnegie Brothers & Co. The claim of Mr. Morrell was that a mistake had been made in assessing railway blooms as steel wire blooms required to pay a specific rate, was shown that the specific duty applied blooms under 600 pounds, and that the parties named had a contract for 20,000 tons weighing 550 pounds, and therefore the assessment was excessive and prohibitory. The revenues arising from these importations was from six to seven million dollars per annum. Prior to the decision of the de-partment in 1879 fixing ad valorem duty, Mr. Morrell had done all he could to have it made specific, but under the decision he found it his interest to import. J. Park, Jr., and J. D. Weeks argued in support of the assessment, and Morrell, Collins and Coun-

The preliminary report of Prof. Raphael Pumpelly, on the production of iron ore in the United States during the census year ending June 1, 1880, has just been issued, and presents some interesting facts connected with the progress of this important industry during the last decade. It is shown that while the maximum yearly capacity of aggregate product, royalties amounting to \$981,170 were paid on 2,266,510 tons. During the census year there were 439,451 tons of ore imported. The product of the largest mine was that of the Cornwall ore bank in Lebanon County, Pennsylvania. The aver-Lebanon County, Pennsylvania. The average product per mine was 8772 tons; average yearly income per man, \$308.94; per cent. of year employed in mining, 77.55; average price per ton at mine, \$2.90; average cost of mining, \$1.35; per cent. ratio of value of yearly product to total capital, 33.13. The changes in the iron ore mining industry

in the	United States during the past d	ecade
were:		
100	Pe	r cent.
Gain in	tonnage of total product	135.00
Gain in	value of total product	75.45
Loss in	value per ton of product	25.45
Jain in	total capital	347.61
Jain in	amount paid as wages	39.48
gain in	total number of employees	110.81

ain in number of establishments..... 01.6 The average royalty paid was 42 cents per This demand for copper wire will increase rapidly as other cities see the necessity and benefits derived from the plan of putting the telegraph wires under ground, so that we may naturally expect a very large increase in the demand and consumption of copper.

Michigan they have fallen 15 per cent.; in Missouri they have risen 56.32 per cent.; in New Jersey fallen 30, in New York 29 and in Pennsylvania 35 per cent.

The following shows the order of production:

The following shows the order of production:

tion, in tons:		E SESSION
Pennsylvania 2, 185,675 Michigan 1,834,712 New York 1,262,127	West Virginia Wisconsin Connecticut	61,316 41,440 35,018
New Jersey	Oregon Maine Texas North Carolina.	6,000 8,600 3,318
Virginia 182.326 Maryland 139,628 Tennessee 104,465	Vermont Indiana	2,726 560 513
Georgia 91,416 Kentucky 64,809 Massachusetts. 62,637	Total7,	971,706

Prof. Pumpelly, commenting upon this exhibit, says: "The six great iron States retain in 1880 their former relative rank, and Alabama, a new State, takes rank next to them. Pennsylvania and Michigan yield over one-half the entire product. Sixteen States were reported in 1870, against 23 in 1880. The new iron-producing States are Alabama, Georgia, West Virginia, Connecti cut, Oregon, Maine and Texas. Virginia has gained four places; Maryland and Tennessee have lost two, Massachusetts four and Kentucky one." The counties producing over 100,000 tons per annum were:

	eres roo,ooo tons per unnum word.	
	Counties.	Tons
	Marquette, Mich	
	Essex, N. Y	630.9
	Morris, N. J	568,4
	Menominee, Mich	459.9
4	Lehigh, Pa	321.3
	Lebanon, Pa	285.6
	Berks, Pa	252,0
	Blair, Pa	354,9
ı	St. Francis, Mo	144,2
1	Dutchess, N. Y.	128,8
1	Northampton, Pa	104.7

Total of 11 counties, first class 4,493,793 or 55.49 per cent. of the entire tonnage. Menominee County, Mich., did not produce ore in 1870; 174 mines were opened during the census year, producing 21.6 per cent. of

The Tariff Convention Resolutions.

We have no occasion to apologize to our readers for our tardiness in printing the resolutions adopted by the National Tariff Convention which met in New York last month. We made every reasonable effort committee on Resolutions refused to let us have them, and the stenographer took his notes and papers to Philadelphia immedi-ately after the meeting. We now have hem, as follows :

Resolved, That, in order to prepare for such an intelligent revision of the tariff laws as will give full and harmonious effect to the rotection policy, Congress is asked to pass law authorizing the appointment of a civilian commission, with power to investigate fully the cost of labor, manner of living and efficiency of the labor in this country and elsewhere, and the inter-relations, condition and needs of our industries, and to report and needs of our industries, and to report the testimony, with recommendation of such Congressional action as they may deem beneficial, and that, pending this investiga-tion, disturbing and destructive assaults upon protective duties or special industries shall not be permitted.

Resolved, That the recent practice of covertuning protective duties and bringing

overturning protective duties and bringing the whole system of tariff legislation into confusion, by means of Treasury decisions contusion, by means of Treasury decisions in customs cases, is a cancer eating into the vitals of our industries, to a number of which it has already proved fatal. Owing to those decisions, for which subordinate officers unknown to the people are really responsible, a late Secretary of the Treasury found some important provisions of the law involved in such a more of absurdities that involved in such a maze of absurdities that he felt himself powerless to do justice, and referred the matter to Congress for remedial legislation. The subject demands immediate action, no less for the protection of the reve nues of the Government than for the protec tion of the industries of the people; and we ask for the prompt adoption of an amend-ment to the laws which will furnish a rule for the decision of cases of disputed classification in harmony with the spirit and pur-pose of our carefully devised protective sys

tem of tariff legislation.

Resolved, That the decline of American shipping engaged in the ocean carrying trade, which is injurious to the business of the country in peace and threatens its safety in war, should not be attributed to any lack of materials or skill in the building of ships, for they can be constructed as cheaply here as elsewhere, when the superiority of work-manship is taken into account. The blame rests solely with the Government, which, disregarding the teachings of our earlier history and the example of other maritime powers, not merely treats this great interest of the country with neglect, but even dis-

criminates against it.

Resolved, That the tax upon banking capital and circulation, on bank checks and on matches and proprietary articles, are impedi-ments to commerce, a duplication in some instances of burdens upon objects taxed under State laws or petty exactions, which amoy and cost the people more than they benefit the revenue.

On motion of Mr. Elder, of Pennsylvania

the following committee was appointed for the purpose of presenting the action of the the purpose of presenting the action of the convention to Congress: The Hon, Daniel J. Morrell, of Pennsylvania: John Roach, of New York; J. B. Grunnell, of Iowa; the Hon. R. W. Thompson, of Indiana; the Hon. Columbus Delano, of Ohio; Henry Bower, of Philadelphia, Pa.; the Hon. Rufus: B. Bullock, of Georgia; C. H. Cramp, of Pannsylvania: Wellington Smith, of Leannylvania: Wellington Smith, of Leannylvania: Wellington Smith, of Leannylvania: B. Billock, of Georgia; C. H. Cramp, of Pennsylvania; Wellington Smith, of Lee, Mass.; Thomas H. Wells, of Youngstown, Ohio; Charles Ridgely, of Illinois; F. W. Nickerson, of Boston, Mass.; Harris Lewis, Herkimer, N. Y.; J. C. Stevens, Ohio; A. H. Jones, Pennsylvania; F. J. Kingsbury Connecticut; J. J. Hagerman, Wisconsin; James Park, Jr., Pennsylvania; Willard Warner, Alabama; A. J. Littlefield, Rhode Island; A. F. Spicer, New York; Esra Island; A. F. Spicer, New York; Esra Rush, Michigan; John Jarrett, of Pennsylvania; William E. Gellatly, of New York; John F. Henry, of New York; and William Rogers, of Maine. A resolution was adopted recommending the abolishment of the internal revenue taxes on bank checks, proprie-tary articles and medicines.

The following resolutions were presented

Whereas, No people can be truly independent without industries and manufac-tures, that can clothe and furnish them with all the necessaries of life during peace, and provide the means of defense in case of war;

Whereas, Under a government like ours, where all labor is acknowledged as respectable, all workingmen are the political equals of and endowed with the same political rights as all others; therefore, it is

Resolved, By the National Convention, now assembled in New York City, that the

chief aim and purpose of a tariff on all foreign made fabrics, and all raw materials not produced or existing in this country, is for the protection of American labor, and to enable our manufacturers, through a tariff, to pay higher wages to American working-men than they would be able to do were they forced to compete with unprotected foreign workingmen, where labor is pauper-ized, and where laborers have not the civil, religious or political rights that our workingmen enjoy.

Resolved, That while we are in favor of

wise, just and equitable revision of the existing tariff by a commission selected of experts or manufacturers, we are utterly opposed to any free-trade tariff that would build up foreign trade on the degradation

of the workingmen of our own country.

Resolved, That the protection of our labor in preference to the labor of any other country, is the cardinal point of every sound protectionist, and is now, as it was in 1789, the first and chief duty of our Government.

Hydraulic Riveting.

To the Editor of The Iron Age .- DEAR Sm: The interesting article upon the sub-ject of "Set Riveting," contained in a recent issue of The Iron Age, has been read with pleasure. Comparison is therein made of the method of riveting by stsam machinery, but the hydraulic system is quite ignored. I therefore presume to offer some observations upon a system of riveting which has been in vogue some years in this country, and to a limited extent in yours also. This is a sub-ject of importance to all concerned in en-gineering establishments, more especially in these days of competition and trade combination, and every genuine improvement merits consideration. In so doing I shall confine my remarks to the system perfected by Messrs. Anderson & Gallwey, a rising firm of en-gineers devoting their attention principally to hydraulics. Although a young firm, their experience is probably as extensive as that of any authority in the line, dating as it does from the very inauguration of the hydraulic system of riveting, punching and shearing. In the first place I shall set out some of the advantages attending the use of Ander-son & Gallwey's improved hydraulic rivet-

son & Gallwey's improved hydraulic riveting machinery, with a slight notice of the plant, and then give some figures showing the saving effected by its adoption.

The first advantage is one gained over steam-riveting machinery by the avoidance of almost all foundations, and by the economical method in which the power is applied, as compared with the heavy masonry and costly expenditure of fuel necessitated by steam riveters. In the second place, the force brought to bear upon the rivet combines the effect of a blow and prolonged pressure, with the power of and prolonged pressure, with the power of retaining the pressure until the rivet becomes cold—an important consideration when thick plates are being worked. Thirdly, the stroke of the riveting die adjusts itself to inequalities in the length of the rivet, so that when the rivet is too long no fracture can result; on the other hand, an equally tight joint is made should the rivet be too short; the holes, likewise, no matter how irregular, are always completely filled. Fourthly, the dies do not require altering with varying thicknesses of plates, and owing to the manner in which the pressure is applied, cast-iron manholes, blocks and the like, can be riveted on—the latter is a valuable feature in these machines. Fifthly, valuable feature in these machines. Fifthly, these improved hydraulic machines can close from 12 to 20 boiler rivets per minute, as compared with 30 per hour attained by hand, and 30 to 60 per hour by steam, according to your report upon work done in the United States. In girder and similar work a still greater speed can be obtained. Sixthly, very little skilled labor is required to manipulate the riveters. Usually boys do the principal part of the work, especially where it is plain and straightforward; men are only required for the heavier portions. Lastly may be named the fact of perfect silence in working, complete freedom from vibration, working, complete freedom from vibration, economy in working expenses, owing to the acknowledged small amount of wear and tear of the machines. There is, besides, the facility of applying the reserve of power contained in Anderson & Gallwey's improved contained in Anderson & Gallwey's improved accumulators to working their punching and shearing machines, bending and flanging presses, and other hydraulic labor-saving tools. As regards the amount of power to be obtained from this system, as much as 60 tons pressure can be exerted upon the rivet-40 tons, however, suffices to work up to 1½-inch rivets in 1¼-inch plates, provided the accumulators are properly proportioned.

The pumps used in this plant work up to 1500 pounds per square inch, and are of the most solid design and construction. Differential and box type accumulators are employed. The special features of the former result in giving a sharp blow and prolonged greens to the rivet at the same time allowqueeze to the rivet, at the same time allowing the pressure upon the rivet head to be varied from 10 to 60 tons. The latter type does not give such a decided blow, yet excellent results are obtained therefrom when it is employed for light boilers, girders and shipwork. This type is also well adapted for working the other hydraulic machine tools mentioned above. The riveters themselves are of various types, fixed and portators. The portable machines can be swung from a crane so as to reach work otherwise difficult of access; thus the riveters are taken to the work, not the work to the machines.

machines.

The cost of working will best be illustrated by comparison of the prices paid in this country for hand riveting with the cost of riveting by this system, which shows at a glance an immense saving. Thus 116 ½-inch diameter rivets in foundation rings of locomotives, 3-8ths of an inch in thickness, can be closed in about 15 minutes for 2/, which cost by hand 23/9. Fire-hole door rings, costing 12/6 to hand rivet, are done for 3/ by machine. Marine boilers of 1 foot 8 inch plates cost 28/ to 35/ per 100 rivets by hand, as against 3/6 by hydraulic machine. Land boiler shells are riveted for about 1/6 per 100 rivets. The work that one gang of men will do on the front of a 7-foot-diameter Lancashire boiler in nine hours, a portable hydraulic riveter will get through in portable hydraulic riveter will get through in portable hydraulic riveter will get through in one hour. A portable riveter employed upcm wagon frames and shoes, will close icce rivets per day with one boy at 6/ and two boys at 12/ per week, or about 6d. per 160 rivets. In shipbuilding, an average of 1500 rivets can be driven per day, at a cost of 2/ per 100, or about one-third the outlay for hand labor. A coingut these accordances were several and the control of the co per 100, or about one-third the outlay for hand labor. Against these economies mest be placed interest on invested capital; hut that is written off entirely in a short space of time, for one firm, turning out on an average one boiler per week, saved the entire cost of their plant with interest in two cost of their plant with interest in two years. A small machine paid for itselfi a 120 days, fully proving the economy and advantage of Messrs. Anderson & Gallwey's improved system of hydraulic riveting. The

improved system of hydraulic riveting. The saving in time is more important than may at first sight be imagined, for it stands to reason that a large amount of work can ke turned out with limited shop room and a small number of hands.

In conclusion, I would mention that this firm's last improvement is a machine to rivet on the safety valve seatings of boilers, a feat hitherto unaccomplished, although frequently attempted during the past six years. One of these machines is now successfully working in the shops of the L. & N. W. Railway at Crewe. Upon some future occasion I will, with your permission, furnish rainway at Crews. Open some future occasion I will, with your permission, furnish more detailed information, with illustrations, of this plant.

Yours faithfully,

EDWIN FARMER.

86 Queen Street, London, E. C.

The Bestwood Iron Works.

The opening of the blast furnaces in connection with the Bestwood Can and Iron Works, recently took place under most favorable circumstances. As the dimensions of these works in particular, and the importance of the district command more than ordinary attention, it may not be uniximportance of the district command more than ordinary attention, it may not be unixteresting to give a few facts relative to the origin and history of the above-named cempany. The Bestwood estate, on which the company's colliery and iron works stand, consists of about 3000 acres, which is the property of the Duke of St. Albans, and forms a complete parish in itself. The company have succeeded in effecting a long lease of the entire estate underground, and they commenced their operations by the sinking of a colliery in 1873. Though many wise-acres had expressed doubtful opinions in reference to the value of the minerals beneath the surface, the directors, with commendable energy, prosecuted their labors and eventually found what is called top hard, at a depth of about 420 yards. This result was realized after a couple of years of hard labor. To the delight of all concerned the coal was found in a thick seam and in a high state of perfection. Thus encouraged, the state of perfection. Thus encouraged, the promoters went to work in effecting the comproducters went to work in effecting the com-pletion of the colliery, the upshot being hat two large shafts, fitted with most powerful machinery, were built. The prosecution of the work of developing the mine gave evidence that the extent and quality of the coal would that the extent and quality of the coal would be quite equal to the most sanguine expactations of the promoters. The seam coxsists at the top of household coal, known as brights; next comes the hard coal, which is brought into requisition for steam purposes and iron smelting; and the next portion is the cannel coal, which is distinguished for its special illuminating power when converted into gas. So successful have the works been that at the present time the colliery is capable of raising about 500,000 tons works been that at the present time the col-liery is capable of raising about 500,000 tons per year, and the iron works have been pre-jected and carried out with a view of con-suming a portion of the hard coal of this seam. It may be mentioned that Bestwood seam. It may be mentioned that Bestwood is adjacent to the thriving populations of Nottingham, Derby and Leicester, which boast an aggregate population of nearly 400,000 people. The works are also in close proximity to the famous colitic ironstones of Northampton, North Leicestershire and South Lincolnshire; in fact, they are the nearest works to these ironstone fields. As some evidence of the importance of the estate and the works thereon it may be said. some evidence of the importance of the estate and the works thereon, it may be said that for some time past the three railway companies—the Midland, Great Northern, and London and North Western—have been engaged in a sharp rivalry for the acquisition of railway approach, and at the present time all three have found their way thither. time all three have found their way thither. By this means communication is easily obtained with all the commercial centers of the land. The iron works, which are regarded as of the best character in the country, have two large furnaces with patent stoves, together with a pair of powerful blowing engines of 100-inch diameter blowing cylinders each. Complete as all the appliances are to the minutest detail, the entire works are so constructed that they are capable of great enlargement at any time are capable of great enlargement at any time when circumstances render it necessary.

The St. Gothard Tunnel will be open for traffic by Jan. 1. The weak part under Andermatt, which has broken so often, is now thought to be permanently and securely protected against collapse. It is now pro-posed to connect the Adriatic with the Lago Maggiore by a system of canals, of which the termini will be at Venice and Magadine. ble, according to the class of work to be operated upon. Several rivelers can be supplied by one set of pumps an accumula-

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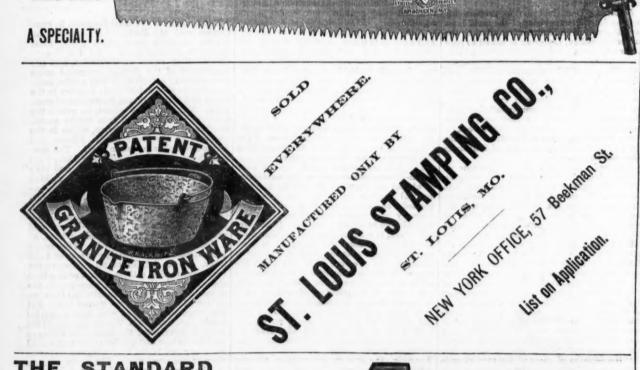
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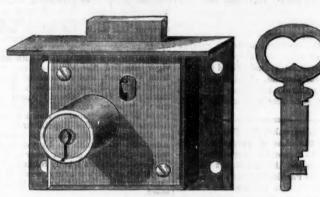
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Have just added two new and valuable patent locks to their already large variety, which will at once commend themselves to the trade.

No. 6101 (Brass) and 6117 (Iron), represented by the above cut, may be locked without using the key, by simply pressing on the plate in the end of the tube. The other patent, Nos. 6201 and 6217, is a lock similar in appearance, but is so constructed that with a small screw driver any dealer can adjust the lock to an endless variety of keys, or make his whole stock "alike" to fit one key, without opening the lock or affecting its security.

These patents have been applied only to drawer and cupboard looks as yet, but will soon be produced in chest and wardrobe locks.

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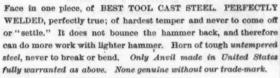
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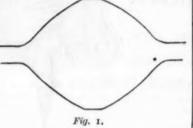
nes made, labeled and Price and Quility G la are of clear, keen gr

Gothics and Puddling Rolls.

Gothics were formerly employed to produce muck bars which would readily enter grooves for flats, squares and rounds of various shapes. Their areas varied from pass to pass by one-sixth to one-tenth for iron, and about one-eighth to one-twelfth for steel. Oval passes of a length equal to twice their hight are frequently used, consecutively or alternating with diamond-shaped grooves, to avoid tearing the unbroken sharp edges which are formed by gethics on small billets of puddled steel.

At the present day polygons or box grooves are generally preferred, on account of giving increased vertical pressure, liberating the slag which flows readily from the open side walls. Gothics also compress the material and force out the slag in longitudinal lines, producing a rapid reduction of section and great elongation, but polygonal grooves

lines, producing a rapid reduction of section and great elongation, but polygonal grooves produce greater density and uniformity of material throughout. Gothics having curved sides allow the material to travel and finally turn over, seeking that part of the groove which has the greatest velocity; the greater the ratio of width to hight, the more readily will it turn, because there are no vertical guiding surfaces to hold the material in position. Originally gothics were designed for the use of billets coming directly from the squeezer or hammer, in order to take advantage of the heat, allowing considerable compression. Experience had considerable compression. Experience had shown that bars of considerable thickness were not sufficiently compressed, their frac-ture indicating the presence of slag in the material. This fact led to a call for thinner material. This fact led to a call for thinner bars, reducing the area of muck bars, by rolling them, to one-tenth their original section, by which process dense material tolerably free from slag was obtained. At present 3/2 to 5/4-inch bars are used, while formerly bars of 1 to 1/4-inch thickness were practicable. The original shape of gothics was probably a square whose diagonals were vertical and horizontal, but in order to reduce the enormous side pressure, and also to gather up the loose material from the puddle ball, a curved form was given to the sides, the circular arc being adopted as givpuddle ball, a curved form was given to the sides, the circular arc being adopted as giving a figure easily reconstructed, all measurements used in reconstruction being fractional parts of the diameter of that circle. The depth of these grooves could now be diminished on account of increasing the width, which permitted the bar to be entered readily into the succeeding pass on being turned 90 degrees; the grooves were widened by turning easy curves at their lower edges. The side curves were made to depend upon the amount of spreadmade to depend upon the amount of spread-



ing, as well as upon the quality of the puddled material to be worked, and were constructed according to previous practice, while the grooves were proportioned by each designer according to his notions and experience of the proper width for a certain hight in any set of rolls. To facilitate the drawing the usual manner of proceeding was to give dimensions derived from experience, indicating the relative proportions of different passes according to an almost constant coefficient of pressure—one eighth to one-ninth—and representing the sides of the gothics by straight lines, leaving their exact shape undetermined. Too great a number of grooves were usually crowded into the customary length of a set of rolls, thereby severely straining them. It should thereby severely straining them. It should be mentioned here that the greater the ratio of width to hight of a groove, the more easily will a bar skip. To avoid this diffiof width to hight of a groove, the more easily will a bar skip. To avoid this difficulty and still use the greatest possible pressure, the hight is reduced as above described. It was found by trial that a concave shape did not obviate skipping, and horizontal straight tops (as shown in Fig. 1) were finally adopted for the grooves. The area of a gothic for rolling flat bars was regarded as equal to a square, the sides of which were equal to the short diameter from curve to curve.

which were equal to the short damater from curve to curve.

When designing a train the lengths of the rolls were first determined. The gothics were put in one set of rolls used, for rough-SCREW WINDOW BALANCE
With which the Sashes work as
with weights, their application
being at an expense of one-hair
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Sashes are Locked with the meet were all turned in a separate set of cal considerations gathered from experience. It had been observed that rolls from 16½ to 171/2 inches in diameter should not make more than 66 revolutions, some kinds of puddled iron tearing even at that speed. Should, however, greater speed be required, it is better to increase the diameter of the rolls than to increase the number of revo-lutions. The correctness of these views is corroborated by the following references: 1. B. Valerius. Merchant iron train, by Hartmann; 30 to 40 revolutions per

minute; diameter of rolls being from 16 to 19 inches. 2. Morin. Results of experience, by C. Holtzmann, Carlsruhe; 60 revolutions per

3. Hollenberg. Designing of rolls, by Nicolai, Berlin, 1869; 40 to 60 revolutions per minute; diameter of rolls from 17 to 19 inches; length of rolls, 4 to 5 feet, the top inches; length of rolls, 4 to 5 feet, the top roll being 1/8 to 3/8 of an inch larger within

the grooves.
4. "Huette." Ernst & Korn, Berlin, 1870;
4. diameter 30 to 45 revolutions per minute: diameter being from 16½ to 21½ inches; length of rolls about 49½ inches, there being two sets of housings, each set requiring not less than 30 horse-power. P. Stuehlen,

5. Ingenieur-Kalender. Essen, 1877; 50 to 100 revolutions per min-ute; diameter of rolls, 13¼ to 19¼ inches; length of rolls, 49¼ inches. They were

having a cylinder of 1934 inches diameter, for two sets of housings, and a diameter of 23% inches for three sets, the length of

23% inches for three sets, the length of stroke being 23% inches.

6. Ingenieur-Kalender. Feliland Jules Springer, Berlin, 1881; 40 to 45 revolutions per minute for heavy rolls; 50 to 55 revolutions per minute for medium rolls; 60 to 77 revolutions per minute for wire rope billet rolls. The diameters of these rolls varied from 15 to 21% inches, the lengths being equal to 3½ diameters, or about 56 to 65 inches, using two or three housings for 14 to 16 furnaces.

The first mills, designed according to

to 16 furnaces.

The first mills, designed according to apparently sound principles, had the merchant and roughing rolls, shears and drop-hammers all united by gearing, which system, although very economical, had to be abandoned and replaced by another, on account of the frequent breaking of the gear wheels. Independent eogines were adopted for each separate train, provided with bottom plates for three sets of housings, so as to allow an increase of capacity of the mill in case of sudden demand. These engines were generally of the vertical directacting type, and rested on columns so that acting type, and rested on columns so that the cylinders could be replaced by larger

the cylinders could be replaced by larger ones should an increase of power and speed be required. The finishing rolls and hot-bed were placed nearest to the engine; then came the roughing rolls, which, when in conjunction with another train, would work at both sides of it.

Any one who has performed the task of reconstructing an old low rolling mill, well remembers redesigning the rolls so as not to have gothic and flat grooves side by side, making each train entirely independent, in order to avoid delay in rolling all the heated blooms, or burning those which had to remain in the furnace until all other material had been worked off. In case the furnaces heated all the blooms at the same time, the material could not be rolled in the same

heated all the blooms at the same time, the material could not be rolled in the same period, and the consequence was that some of it would cool to such an extent as to require reheating, causing a loss of weight.

A certain German mill, having 65 puddling furnaces, had 3 mill-bar trains, one of which had 2 sets of rolls (one roughing and one finishing); another had 2 independent rolls, and the third had 3 sets of rolls. For all these, 2 independent roll trains were substituted, and after reducing the variety of shapes to 3 sizes, 5 pairs of rolls were sufficient to do the same amount of work which formerly kept 7 sets busy, or, rather, idle. The large number of spare rolls of different diameters and various lengths which had to be kept on hand so as to have them ready for use in case of an accident, represented a diameters and various lengths which had to be kept on hand so as to have them ready for use in case of an accident, represented a considerable amount of idle capital which might have been profitably employed elsewhere. According to the new plan only 2 sets of spare rolls were required, thus removing this objectionable point. Another German mill adhering to the same principle, running 26 furnaces, had 3-high rolls, the top and bottom rolls being the same in each set, and consequently interchangeable. When the gothics are very wide and the pressure is great, the last grooves are apt to bend the ends of the comparatively cold bars, which when striking the floor imperil the roller. Reversibility of rolls is of great advantage in plate trains making 20 to 30 revolutions per minute. Blooming mills ought always to be reversible, on account of the heavy weight of the pieces to be handled, the same being true for rail mills; puddling trains when running not faster than 70 revolutions per minute might be similarly designed. Kerpely gives in his report on Fortschrift. per minute might be similarly designed.
Kerpely gives in his report on Fortschritt
im Eisenhuettenwesen, 1870, the following
interesting and valuable data:

	Dia. st	Stroke	Ratio	Dia.	Minim.	Adequa
Crewe—Thwaites & Carbutt, Brad- ford	28 30 34 34	48 48 48 48	1.3½ 1.3½ 1.2 1.3½	24 84 24 24	50 45 8 45 50	1.09 1.1486 0.9 1.46
Co.—Workington Steel Union Dortmund Union, Hamm Machine	36 36	48 60	1.3%	26 24	56	1.96
Constr. Society Steelwork Osna- brueck — Dülmen,	36	54	1.1%			*****
Prince Rudolph H.	36	54	1.9	27	35	
	OR II	NOOTE	8.			
Dowlais	36	48	1.456	35	50	1.00
Ebbw Vale Bochum —Thwaites	50	48	1.2	30	50	1.03
& Carbutt Steel Union	34	48 60	1.4%	39	56 56	0.99
A. Links	on i	LATE	28.			
Crewe—Thwaites & Carbutt	l of		1.3%	9	4 5	0 1.00
Schultz, Knauth &				9		01.1.8
Co.—Essen Union. Borsigwerk, Upper		1	-	25-2	10	0 1.54
Silesia Coquerill, Seraing Bergen Witten	3834	50		9 9	8	5 0.586 1.95
Neustadt a. Ruehen berg, Hamm Mach Construction Soc. Dillingers	38%	54	1.2%	9	8 5	6 1.20 6 1.65
Burbacher Huette— Coquerill, Seraing. Gute – Hoffnungs, Huette—Jac, Han- iel and Hugssen	39%		1.2.6			
ler and riugseen	4.4	40	2.2.0	2074	31	

Cyl.

Owner and Manu-

It is urged by some that the 3-high rolls heap up the slag in the middle of the bars, ruining the material and making it unfit for wire rods; this is, however, flatly denied by numbers of iron men who employ this very method. To avoid the necessity of straightening muck bars after having been rolled, the rolls are so placed that the lowest groove is on a level with the floor, and the bar, led by side guards, falls on this floor and is straightened by its own weight. Delay is avoided by allowing the puddled bloom to enter the first groove when the muck bar leaves the train. The middle roll is generally the driven one. When such a train is once regulated it requires little, if any, adjustment of any kind as long as the grooves are correct. The pressure screws need not be touched and the water supply is carefully numbers of iron men who employ this very touched and the water supply is carefully

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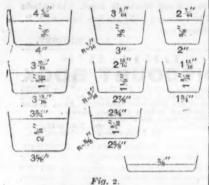
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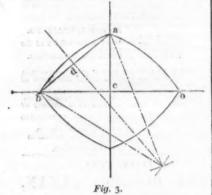
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regulated, so that the requisite amount of water is delivered. The roller on the eatcher side works with tongs, not requir-ing any hook suspended by chains; the fore-roller also catches the bar without any help, while revolving rollers in the feeding table, driven by belts, lead the bar to the next driven by belts, lead the bar to the next groove between the lower and middle rolls. These reliers are placed close together, with just enough space between them to allow the slag and scales to fall through. Rails for cars, laid around the mill, would afford greater facility for unloading directly from the cars, and do away with the ordinary, more expensive method of transporting the masses of iron. This art the same times masses of iron. This at the same time obviates the necessity of carrying a large stock of fuel, which, if soft coal or lignite is used, rapidly deteriorates as a heating ma-terial upon exposure. Those gothics which are almost as wide as they are high, or, in other words, which are almost square, are especi



ally adapted for rounds. Such grooves are to be selected for any particular shape, which reduce the blooms to the smallest desired section in as few passes as possible, at the same time compressing the material considerably toward the center of the bar. Due reeraply toward the center of the par. Due regard must be had as to whether the selected grooves will do the required work expeditiously, without causing skipping, without producing fins, and avoiding such sharp producing fins, and avoiding such sharp edges as to press them between the rolls or collars. The larger curves of these gothics are generally struck with a radius equal to their width, making width and highs in the proportion of 12 to 10, with a reduction in size of ene-ninth to one-tenth from pass to pass, these values being most generally adopted in designing rolls. In laying out grooves, having a given shape to work from, the last or finishing groove is taken as a basis (the width of finishing groove being equal to the bar plus shrinkage). If we take the case of 4, 3 and 2-inch bars, adding take the case of 4, 3 and 2-inch bars, adding 1-64th of the width of the bar for shrinkage for each succeeding pass, then we will have



the following width of grooves for I inch hight (given in Fig. 2).

These grooves are wider at the top than at the bottom, in order to allow the material to leave them easily, and have the lower corners nicely rounded to prevent fractures; sharp edges are quickly destroyed in the rebeating furnace, while round ones do not offer as much resistance to the flames, and consequently last longer. All shapes produced in perfectly new grooves are scant, but as the rolls grow older and become worn correct shapes are rolled, and become worn correct shapes are rolled, and finally these become fuller and fuller until lls must be replaced by new ones. To avoid returning, the grooves have the cor-rect finished width of bar at the bottom, all spreading being allowed at the top, although it might be advantageous to make them 1-16th scant in the beginning.
Experience has shown that 3 and 4-inch

hars may be rolled in three flat grooves while for 2-inch bars but two are necessary to roll them down from squares. Below are

Vidth.	Hight	W	di	th	l.							1	Hig	ht.	
6	3%												. 11/8		
	2 15-16	3					*	è			*	е.	. 28		
5	I 3-10												. 73/3		
	78												. 8 3		
	238	3							0 0	0	۰	0	. 78		

As a rule the width of the top of any groove is equal to the width at the bottom of the next one. The gothics must measure as a maximum, 3½ inches, 2½ inches and 15% inches across the corners, considering the shape full, neglecting the fillets, and allowing more for shrinkage in those grooves which are not entirely filled by the billet. The diameters of the curves for the first groove are given by the size of the forged or squeezed ball, while for the last groove they are known from the groove adapted for the smallest billet or bar to be rolled. If we take, for instance, a bar having a diameter of 160 mm., with a corresponding section of 20,106 sq. mm., and wish to reduce it to a bar of 2463 sq. mm. section with a diameter of 56 mm., a reduction of 17,643 sq. mm. must be effected, which, if done in 8 gothics, will give us the following figures:

2	1.	440	4	6	207	,				0.1											Area in sq. mm.	Diam. in mm. 56	a = 1	
-9	L										0	0						-	-0	į,	3,093	63	0 = 2	Į
é	Š,				0					0	b	0		0		0	,	-	-1	>	4.353	74-5	c = 3	į
3	į.				ď			0 1	64				p	0		0	0	-	- 6	3	6,243	89	d = 4	į
4	į.		à		o	0.0		9 1	1 4	1.0		0		0	0	٠	0	-	-0	ı	8,764	103.5	6 = 5	
3			0			0	0 1					0		۰	0.	0		-	-4	3	21,915	193	1 = 6	Į
-9				0	<				0.0				6	b	,	0 .	>	-	-3	7	15,695	E4E-3	9=7	Į
															0	0		-	- 5	y	20,106	160	-	
														1	17	ré	4	3	-9	0	28 = 630.	4.	28	

the third groove will answer for the first groove for a 4-inch flat row. Should it not be found so it would be necessary to change the pressure. Instead of 160 mm. as a precove for a 4-inch flat row. Should it not be found so it would be necessary to change the pressure. Instead of 160 mm. as a diameter; we could take 158 mm. with a corresponding section of 19,606 square mm.; or produces for merchant or puddled into advantage when rolling wide bars. Rough subtracting 2463 square mm. from this we obtain $\frac{17143.6}{28} = 612.3$, and the dimensions

in the above table would become :

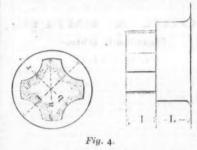
Area in sq. num.	Diameter in mm.	Diameter in inches,
- 3,075	62.5	9 15-38
4.300	74.	2 15-16
- 6,137	74. 88.5	336
- 8,583	104.5	41/8
-17,047	130.	4 13-16
-15,30:	140.	- 554
-20, 166	160.	6%

Area in sq. mm.	Diameter in mm.	Diameter in inches.
8 2,124	50.	2 1-16
7 2.731	50-	2 5-16
6 3,959	71.	2 13-16
5 4,418	75.	3 15-16
4 5,945	87.	3 7.16
3 7.543	93.	376
2 9,764	311.5	43%
113,273	130.	5/8

The initial area being less than in the other case, indicated a greater amount of hammering before being rolled, and consequently the material entered the rolls rather cool, requiring frequent reheating and often causing the breaking of the rolls. By adopt-ing a larger area for the first groove, the slow process of hammering was abbreviated, the welding was more perfect and the rolls

could more easily reduce large sections, the material being hotter than in other cases.

A. Hollenberg, in his "Roll Construction," gives the ratio of hight to width in Gothics as I: I.2, and allows I-12th inch

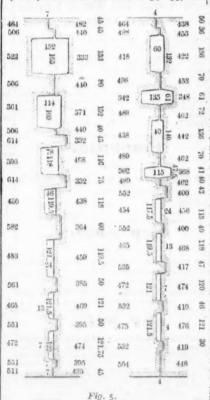


for spreading: thus the hight and width of for spreading: thus the hight and width of the first groove would be respectively 60 and 72 lines, assuming the hight as 60. When grooves are constructed with curves having radii equal to the width, their contents may be easily determined in the following manner: In Fig. 3, take ac = .5h, bc = .6h, bo = 1.2h; then ab =

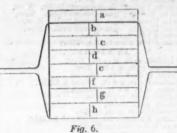
1 0.25 he + 0.36 he

= .781 h, $ad = \frac{1}{2}ab = .39$ h, and the triangle $acb = a \times ch^2 \times b = .15$ h*; but the segment = $\frac{2}{3}\frac{ab}{h}$ (1.2 — 1.1346) h^2 = .034 h^2 ,

and $\frac{1}{4}$ of groove = .184 h^2 , the entire groove being .736 h^2 . Mr. R. Daelen recommends for the length of rolls, 3 to $3\frac{1}{4}$ diameters for sheet and merchant iron, but only $2\frac{1}{4}$ diameters for heavy work, the length and diameters for heavy work, the length and diameter of each journal to be one-half of the diameter of the rolls, except for sheet iron, in which case two-thirds of the diameter should be taken. The grooves ought not to be deeper than one quarter of the roll diameters. Mr. Dickman found that the iron loses more heat in each pass than is developed by compression in the ratio of 34:35, and



W" or %" in the finishing groove, and the most common width being 2 3-2", 3 3-16",



eter of roll = 550 mm. = 21 5-8 in.; J = .58 D = 12 9-16 in.; a = .95 J = 11 5-16 in.; $b = \frac{2}{3}$ a + 3-16 = 8 3-16 in.; r = .3 a = 3 0-16 in.; l = .5 J + $1\frac{1}{3}$ in. = 8 1-16 in.; L = from .5 D to .47 D = 9 in. about. When orders are scarce, smaller works are employed to fill those on hand. This is done with some disadvantage, because while changing the rolls the furnaces must remain itle. Independent trains of four pair of 2-high rolls were consequently adopted and so arranged that seme of them could work while others were changed. In one particular case gothics were used for one shape of mining rails, while in another pair eter of roll = 550 mm. = 21 5-8 in.; J = one particular case goines were used for one shape of mining rails, while in another pair of rolls puddled bars were worked, independ-ently of the roughing rolls. At another time thin flat plate were rolled in the same manner, and hoop iron, used for wrought-iron pipes 13 x 15 feet in length, was worked down from long and narrow piles, the whole operation being finished in one heat. Fig. 5 shows the arrangement and construction of polygons, avoiding bad welding, which was the common defect of polygon grooves formerly employed. Especially when the hights lapped by ½ inch, the pile entering the grooves was deformed by the side-pressure, leaving a hollow space where the welding, during the first pass, ought to have taken place, allowing the air to enter the interior of the material and cool it off. In the form shown in Fig. 6 the pile is prevented from skipping and the slag is allowed to flow off at the middle of the groove. gons, avoiding bad welding, which was the

The Coal Trade of Cincinnati.

Through the kindness of Mr. Sidney D. Maxwell, Superintendent of the Cincinnati Chamber of Commerce, we have received an advance copy of that part of his report which relates to the coal trade of that city, from which we condense the following:
The past year, to the coal business of the

The past year, to the coal business of the city, has been, in general, one of the most satisfactory to dealers that has been enjoyed for years. The quantity of coal received, however, owing to the interference with navigation by ice in the winter, and the dry weather and consequent low water in the summer, has not equaled the preceding year, though, with this exception, the largest in the history of the trade. The early winter was favorable to the shipment of coal, and there were liberal supplies reached here was ravorable to the supplies reached here before the closing of the river by ice, which occurred late in December and continued practically through the succeeding six weeks. The breaking of dams numbers one and two, The breaking of dams numbers one and two, on the Monongahela River, after the conclusion of the ice embargo, created a great deal of uneasiness in the coal trade, but the fears were eventually dispelled, inasmuch as the Allegheny and Monongahela Rivers, running out at the same time, created favorable conditions in the latter, which enabled unusually large greating to get a variety of the same time. ally large quantities to get away, an aggregate of about twenty-three millions of gate of about twenty-three millions of bushels having come out during the two months of March and April. Since the lat-ter part of May, with the exception of one good run in June and a light one late in July, there has been no addition to our stocks from the Pittsburgh region. While this is true concerning our supplies, the unusually long period of cold weather and the active operations of our manufacturing establishments added materially to the actual wants of the city. On the other hand, the long stoppage of the rolling mills, on account of labor troubles, came in to save the city from a dangerous shortness of supply, to which it was rapidly drifting toward the close. The year went out with law water the the river in good condition, rail transporta-tion is greatly at a disadvantage in rates, and with the temporary nature of suspended navigation, it is at a disadvantage in facili-ties, especially when the reads are abun-dantly taxed with other business, so dantly taxed with other business, so that, in almost any possible event, the hope of our industries, with their extraordinary requirements, as far as fuel is concerned, rests on the river. This has been sufficiently demonstrated, and furnishes an appeal, of which none can be stronger, for the improvement of the Ohio and its tributaries to the utmost. Every dollar expended to this end is in the direction of the toiling artisans and laborers of the Ohio Valley. The two equal temperatures. By adopting his system of reduction of the areas of the successive grooves, a reduction down to 10-14 of the section of the material may be effected without forcing any of it between the collars. Mr. P. Tunner recommends for the diameter of muck bar gothics 6". g". AL". fuel interests. It is believed by those competent to judge that, with these improvements completed in the past year, at least three or four millions of bushels would have

tation for Pittsburgh (Yonghiogheny) coal, affoat, at the opening of the year, was 9 cents per bushel. In October there was cents per bushel. In October there was not enough Pittsburgh coal in the market to warrant a wholesale quotation. In November, with fresh supplies, soal commanded to cents, affoat, at which it remained till the cold weather of January, when it again disappeared from the wholesale market. In February and the first helf of March it was quotable at 12 cents per hushel at which it. quotable at 12 cents per bushel, at which it had ruled in the early winter of the preced-ing year. Before the close of the latter month it deckined to 10 cents, at which it re-mained until near the close of the year, com-pared with 8 "cents, which was the prevail-ing price of the preceding spring and suming price of the preceding spring and sum-mer. About the middle of August it again ing price of the preceding spring and summer. About the middle of August it again advanced to 12 cents, with not enough remaining to furnish a wholesale quotation to the end of the year. The average quotation to the end of the year. The average quotation of the year for Pittsburgh coal was 10.23, the highest average since 1873-74, when it was 11.26 cents. The average price, afloat, in 1879-80, was 9 06 cents, and in 1878-79, 7.58. The average quotation for Pittsburgh, delivered, was 15 cents, compared with 13.22 cents in 1879-80; Ashland, 1880-81, 13.18 cents; 1879-80, 11.07; Ohio River, 1880-81, 12.36; 1879-80, 10.44; Hocking Valley, 1880-81, 13.55; 1879-80, 11.97; Muskingum Valley, 1880-81, 13.55; 1879-80, 11.93; Campbell's Creek, 1880-81, 14.87; 1879-80, 19.89; Camphell's Creek, 1880-81, 22.88; 1879-80, 19.89; Anthracite, delivered, per ton, \$8.03, compared with \$6.68 in the preton, \$8.03, compared with \$6.68 in the previous year.

The receipts of coal of all kinds in the past year aggregated 40,244,438 bushels, or 1,492,817 tons, in comparison with 48,198,-246 bushels, or 1,787,230 tons, in 1879-80, and 34,210,667 bushels, or 1,269,339 tons, in 1878-79. Of the entire receipts in 1880-81, there came by river 37,084,024 bushels, or 92.1 per cent. of the whole, in comparison 92.1 per cent. of the whole, in comparison with 44,921,786 bushels, or 93.2 per cent., in 1879-80, and 31,305,067 bushels, or 91.5 per cent., in 1878-79; and by rail, in 1880-81, 3,760,414 bushels, or 7.9 per cent. of the whole, compared with 3,276,460 bushels, or whole, compared with 3,276,460 bushels, or 6.8 per cent., in 1879-80, and 2,905,600 bushels, or 8.5 per cent., in 1878-79. Of the grand aggregate, there arrived from the Pittsburgh region 23,202,084 bushels, compared with 31,750,968 in 1879-80, and 20,260,027 in 1878-79; from the Kanawha and adjacent localities, 10,783,143 bushels, in comparison with 9,115,290 bushels in 1879-80, and 6,467,588 in 1878-79; from the Ohio River mines and contiguous territory, 3,151,034 bushels, compared with 4,268,214 River mines and contiguous territory, 3,151,934 bushels, compared with 4,268,214 bushels in 1879-80, and 4,068,452 bushels in 1878-79; from the anthracite region, 770,525 bushels, in comparison with 712,075 in 1879-80, and 768,750 in 1878-79; and from all other sources, including the Hocking and Muskingum valleys and other interior and Muskingon valleys and other intersor mines of Ohio, 2,336,752 bushels, compared with 2,351,699 bushels in 1879-80, and 2,136,850 bushels in 1878-79. The relation which the quantities of coal received from the various sources of supply sustain to the whole quantity in the past four years is as follows:

Sources of Supply.	1280-8t.	1809-80.	1878-79.	1877-78.
	Per cent.	Per cent.	Per cent.	Per cent.
Pittsburgh	57·7	65.8	60.7	68.7
	26.8	18.9	18.9	17.4
	7·8	8.9	11.9	8.5
	7·7	6.4	8.5	5.4

The business transacted in Anthracite coal exceeds any previous year, and there can be no doubt of the growing favor in which hard coal is held here, especially in the suburbs, where there are fewer obstacles to relief from the soot which permeates all to relief from the soot which permeates all the households of the city proper. The receipts for the year aggregate 770,925 bushels or 30,821 toos, compared with 712,075 bushels or 28,482 tons in 1879-80, and 768,756 bushels or 30,750 tons 1878-79. The quotation for Anthracite coal in the early period of the year was \$7 @ \$7.50 per ton, delivered, compared with \$5.50 at the corresponding period of the preceding year. Prices hardened as the winter proceeded, the prevailing rate after the holidays, having been \$8.50 per ton. Early in May the market was easier, the price declining to \$3, at which it remained to the close of the year, compared with \$7 @ \$7.50 at the conclusion of the preceding year. The average quotation for the year, delivered, was \$8.03 per ton, compared with \$6.68 in 1879-80, was rapidly drifting toward the close. The year went out with low water throughout the entire length of the Ohie River, and the city for the winter's needs at the mercy of the wenter the mercy of the wenter's needs at the mercy of the wenter the light supplies with the mercy of the wenter's needs at the mercy of the wenter's need city for the winter's needs at the mercy of the weather. The light supplies, with the consequent higher prices, have discouraged purchases for prospective wants, so that cellars are generally empty. The futility of this great city depending on rail facilities for coal has again been demonstrated. With the river in good condition, rail transportation is greatly at a disadvantage in rates. mately, 2,097,482 busness, in comparison with 3,251,208 in the preceding year. If to these figures were added the coke manufactured here, which approximated 2,082,800 bushels in 1880-81, in comparison with shipments greatly.

1,900,500 bushels in 1879-80, it would make was awaiting ship the grand total 4,780,282, compared with been run entirely or

5,151,708 in the previous year.
The shipments of coal from this city, notwithstanding diminished receipts, shows an withstanding diminished receipts, shows an increase over the past or any preceding year, having been 11,796.855 bushels, or 436.920 tons, compared with 10,037,168 bushels, or 371,747 tons in the provious year. If to these figures were added the shipments of 56 mms, a reduction of 17,643 sq. mm.

of 56 ms, a reduction of 17,643 sq. mm.

must be effected, which, if done in 8 gothics, will give us the following figures:

Area in Diam. in sq. mm.

Area in

proportions as to make it a distinctive and influential feature of the coal business, and is as large now as were the entire average annual receipts of coal in the seven years prior to the war.

Table showing the average annual quotation, at Cincinnati, for Pitteburgh (Youghiogheny) coal, delivered, in a period of 18 years:

ears.	Cents.	Years.	Cents.
863-64	38.34	1872-71	20,72
864-65	26.13	1877-74	16.04
865-66	24.42	1874-75	14
800-07	17.80	1875-70	12.11
867-68	22.1	1876-77	11.37
868-69	T1.60	1877-78	11
809-70	15.27	1878-79	11.12
870-78	15.82	1879-80	13.23
871-72	, 22.68	1880-82	15

Table showing the annual receipts of coal, at Cincinnati for 28 years:

Years.	Bushels,	Reduced to
1853-54		302,148
1854-55		383.555
1835-56	7,500,000	277,777
1856-57		537,937
1857-58		\$\$5.555
1858-59		458,088
1859-60		540,740
1860-61	12,500,000	462,962
1861-62	8,500,000	314,814
1862-63	8,000,000	206,206
1863-64	15,975,366	501,680
1864-65		600,880
1865-66	18,022,000	667,514
1866-67	18,446,226	683,195
1867-68	17,500,000	648,248
1868-69	25,500,000	944,444
1869-70		1,192,222
1870-71		850,814
1871-73		1,140,300
1872-73	37.274.497	810,010,1
1873-74		1,305,285
1874-75	35,390,300	1,311,488
1875-76	40,183,317	1,480,108
1876-77		1.468,610
1877-78		1,441,754
1878-79	34,210,669	1,269,339
1879-8	48, 198, 240	1,787,230
128c-S1	40,244,438	1.402.817

Burning of the Millvale (Pa.) Mill of Graff, Bennett & Co.

Early on Sunday morning, the 11th inst., the extensive Millvale Rolling Mill of Graff, Bennett & Co., situated near Pittsburgh, was discovered to be on fire, and before the flames could be stepped the mill was very nearly consumed. It was probably the largest iron mill under one roof in that section, and the loss is estimated by many tion, and the loss is estimated by members of the firm at not less than \$300,000. The of the firm at not less than \$300,000. The mill was located at the mouth of a triangular-shaped valley in Millvale borough, at Bennett's Station, on the West Penn Railroad, not a hundred yards from the north end of the Forty-third street bridge. It was separated from Pittsburgh by the Allegheny River, and only a little further removed from the Allegheny line. The mill proper stood on the north side of the railroad tracks, fronting on the river. On the north side of the mill proper an addition had been built, which was connected with the main building by a covered archway near the building by a covered archway near the eastern end. Near the center of this addi-tion, which was known as the "new mill," and was used for the manufacture of bridge iron, an apartment which was used as a carpenter and gas-fitting shop had been par-titioned off. It was in this shop that the fire, which proved so destructive, origin-ated.

As the mill was outside of the city limits both of Pittsburgh and Allegheny, considerable delay was experienced in securing permission for the fire engines to go to the burning mill, and in the meantime the pumps at the mill were the only dependence. These were inadequate and the fire rapidly These were inadequate and the fire rapidly spread until the men were driven from their position. The origin of the fire is a mystery. Work was suspended in the mill between two and three o'clock on Saturday afterand there was very little, if any, fire about the place. In the carpenter shop, where the fire was first discovered, it is certain there was no fire up to twenty minutes before it was seen on the roof. One of the three watchmen states that he was in the shop not more than twenty minutes before the alarm was sounded and that there was no fire there then. The foreman of the mill, Mr. F. Selgbrook, also states that he walked through the entire establishment not more than half an hour before the fire was discovered and everything was safe at that time. Charles Moss, one of the walchmen, time. Charles Moss, one or the water thinks the gas furnace, nearest the carpentheory may prove to be correct, but it is not generally believed, and some persons talk of incendiarism.

The loss sustained and the insurance carmanager thinks that the actual damage, not counting the consequential damage to be sustained before the mill can be rebuilt, sustained before the mill can be rebuilt, will not fall short of \$300,000. This may be increased, as there was a considerable amount of stock on hand, the greater portion of which will be valuable only as scrap iron. This part of the loss would have been warded the manager of the second the manager. averted, the manager states, if it had not been for the scarcity of cars, which delayed All the stock on hand supments greatly. All the stock on hand was awaiting shipment, the mill having been run entirely on contracts. The insurance, Mr. Bennett stated, was between \$150, 000 and \$175,000. He thought the amount was about equally divided between home and foreign companies, but could not furnish a list. He was under the impression, howa list. He was under the impression of ever, that the policies of home companies were all for small amounts.

The Millvale Iron Works were built

If to these figures were added the shipments of coke, which in the past year were 891, 150 bushels, in comparison with 708,725 in 1879-80, it would show the entire ontward movement of coal and coke, at this city, to have been 12,688,005 bushels, in comparison with 10,745,293 in 1879-80. Because of a class of shipments having been embraced in the rest two years not previously comprised.

LOT.

93 Chambers St., N. Y.

A. R. WHITNEY.

NEW YORK, Dec. 1, 1881.

Special Notices.

ELEY BROTHERS'

GENUINE BLUE CARTRIDGE CASES,

Twelve Gauge.

The best paper shell in the market. For sale

I HAVE THIS DAY ADMITTED AS PART-

A. Nesbitt and Charles D. Jones. The business

will be continued under the firm name of A. R.

ners in my business, Jacob P. Meday, Daniel

ALFRED FIELD & CO.,

JOB

cheap. Supply limited.

stated yesterday that the work of rebuilding would be commenced at once, but in the meantime these men and their families must necessarily be greatly straitened in

The largest steam hammer in the United States, recently placed in position at the Black Diamond Steel Works in Pittsburgh, was put in operation a short time ago. The hammer itself weighs 17 tons, while the anvil block under it weighs 160 tons. With a full head of steam it will strike a blow of 90 tons, but as the tremendous weight is not always necessary in hammering, it can be always necessary in hammering, it can be made to strike a blow ranging anywhere between 17 and 90 tons.

Special Notices,

VALUABLE FOUNDRY

FOR SALE CHEAP,

Near DETROIT, MICH

Being about to concentrate our business at our new works, now building in Detroit, we offer for sale our foundry at Wyandotte, to miles below Detroit, on the Detroit Hiver. These works have a capacity for so molders, and for melting to to 15 tons of iron. Engine 80 horse power, with boiler, pumps, heater, blower, shafting, elevator and mounting machinery, all in excellent order and now running. Ample room is provided for Japanning, Pattern, Carpenter and Machine work under one roof, and conveniently related to each other. This property front 313 feet on both Main street and the Detroit River, to which we extend back 60 feet. From our river-front dock, water communication is had with Detroit by a regular line of steamers, and to our street front the cars of the Lake Shore and Michigan Southern, and of the Canada Southern Roads can be switched. The Eureka Iron Works, employing about 600 men in the manufacture of Merchant and Fig Iron, is almost adjacent, and for many kinds of business would be a source of economical and ready supply. For continuing as a Stove Foundry everything is in present running order, or might be easily converted into any Foundry, Machinery, Agricultural Implement, or other manufacturing purposes.

This most valuable and extensive property will be sold at an especially low price, and on favorable terms to a responsible buyer. Address.

PENINSULAR STOVE CO.,

IRON RAILS.

THE SPRINGFIELD IRON COMPANY

is open for orders for a few thousand tons of Iron Rails, of any weight not less than 20 lbs, per vard and for immediate delivery.

Apply to the Company at Springfield, Illinois

JAMES JOHNSTON, Agent, 30 Pine Street, New York

SPECIAL NOTICE.

THIS SEASON'S STOCK OF

WHITE HOLLY

IS NOW READY. AS TO WHITENESS, IT IS

UNSURPASSABLE.

J. RAYNER.

BAND AND VENEER SAW MILLS,

Foot Houston St., E. R., N. Y

General Hardware, Specialties, Railroad and Machinists' Supplies.

and Machinists' Supplies.

WANTED.—An engagement to travel for some manufacturing or wholesale Hardware house, to sell General or Heavy Hardware, Specialties, or Railroad and Machinists' Supplies, by an ex-Hardware merchant; married, of good address, experience and habits. Can command trade in Ohio, Indiana, and Illinois. Best of reference.

Address
Office of The Iron Age, Builders' Ex., Cincinnati, O.

For Sale.

One 18x30-in. Horizontal Engine. Two Locomotive Boilers, 30 and 75 H. P. each. One four-ton "Otig" Freight Elevator. One No. 5 Knowles Steam Pump, second-hand, but all in good order, complete, ready for immediate delivery. Will be sold low. For particulars address

BELCHER & BAGNALL, 40 Cortlandt St., N. Y.

For Sale.

Stock of Hardware, Fixtures, and Good Will of the subscribers, in the city of Norwich, Conn. Only one other hardware store. Population

FULLER & PARISH.

For Sale, to Close an Estate.

The property of Hon. H. D. Foster, deceased, consisting of about 300 acres of land at Harmerville, West Fennsylvania, R. R. (mouth of Deer Creek, on Allegheny River) 12 miles from Pitsburgh. Eligible for extensive manufacturing purposes, with railroad frontage both North and South of R. R. Station, giving an extent for parallel sidings of over one quarter of a mile. Froved to be all underlaid by Hite's Station coal veins at a depth of about 100 feet below level of railroad. Will be divided to suit.

F. Y. CLOPPER, administrator, Greensburg, Pa.

SITUATION WANTED—At once by a young man with 15 years' experience in the general Hardware trade. The best of references furnished. Address E. L., Box 90, Office of The Iron Age, 83 Reade St., New York.

Special Notices.

SECOND-HAND & NEW MACHINERY

December 15, 1881.

The following New and Improved Machinists' Too are part of what we have for early delivery :

6 iz-in. swing, 12 ft. bed, Engine Lathes. December 1 22-in. swing, 13\(\frac{1}{2}\) t. bed, Engine Lathes. December 3 18-in. swing, 10 ft. bed, Engine Lathes. December 2 18-in. swing, 6 ft. bed, Engine Lathes. December. 2 18-in. swing, 6 ft. bed, Engine Lathes. December. 2 28-in. swing, Upright Back Geared Drills. December. The following in store:

The following in stere:

1 28-in. swing, 15 ft. bed, Engine Lathe. New.

1 21-in. swing, 8 ft. bed, Engine Lathe. Second-hand.

1 10-in. swing, 6 ft. bed, Engine Lathe. Second-hand.

18-in. swing, 10 ft. bed, Engine Lathe. Second-hand.

18-in. swing, 10 ft. bed, Engine Lathes. New.

18-in. swing, 6 ft. bed, Engine Lathes. New.

18-in. swing, 6 ft. bed, Engine Lathe. Second-hand.

11-in. swing, 6 ft. bed, Engine Lathe. Second-hand.

11-in. swing, 4 ft. bed, Engine Lathe. Second-hand.

11-in. swing, 4 ft. bed, Engine Lathe. Second-hand.

11-in. swing, 4 ft. bed, Hand Lathe. Second-hand.

11-in. swing, 4 ft. bed, Hand Lathe. Second-hand.

10-in. swing, 3 ft. bed, Hand Lathe. Second-hand.

18-in. swing Pulley Lathe. New.

Round Arbor Fox Lathe.

Iron Placer, 57 in. wide, 25 ft. long, with two heads,

2d-aand.

1 38-in. swing Pulley Laths. New.
1 Round Arbor Fox Lathe.
1 Iron Placer, 57 in. wide, 25 ft. long. with two heads, 2d. aad.
1 37-in. x 36 in. x 9 ft. "Cove" Planer. Second-hand.
1 37-in. x 36 in. x 9 ft. "Cove" Planer. Second-hand.
1 36-in. x 36 in. x 9 ft. Planer. New.
1 12-in. x 12 in, x 2 ft. Planer. Second-hand.
1 13-in. Hendey Shaper. New.
2 43 in. Radial Drills. Second-hand.
2 Wall Drills, heavy. Second-hand. 6 and 72 in.
1 Pratt & Whitney Cam Cutter, 2 heads.
1 Sellers Miller. Second-hand.
2 Manhattan Arms Co. Millers. Second-hand.
2 Manhattan Arms Co. Millers. Second-hand.
2 Fond Index Milling Machine. Second-hand.
2 Fond Index Milling Machine. Second-hand.
2 Garvin Milling Machine. Second-hand.
3 Second-hand Profiling Machine. Second-hand.
2 Second-hand Profiling Machine. New.
3 Hyde's Pat. Contering Machines. New.
3 Vertical Centering Machine. New.
4 Second-hand Profiling Machine. 2 Second-hand.
5 Emery Grinders. Second-hand.
6 Pipe Cutting Machine. Second-hand.
6 Pipe Cutting Machine. Second-hand.
6 Pipe Cutting Machine. Second-hand.
6 Pulley Forcing Machines. Second-hand.
6 Pulley Forcing Machines. Second-hand.
6 Hor. Boring Bar. 125 in. diam. Second-hand.
6 Hor. Boring Bar. 125 in. diam. Second-hand.
6 Horlsontal Boring Machines. Second-hand.
7 Horlsontal Boring Machines. Second-hand.
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1 Horlsontal Boring Hachines. Second-hand.
1 Horlsontal Boring Hachines. Second-hand.
2 Small Power Funching Presses. Second-hand.
3 Grind Stockes. Research Presses. Second-hand.
4 Grind Stockes. Research Presses. Second-h

The Geo. Place Machinery Agency.

121 Chambers and 103 Reade Sts.,

NEW YORK.

J. SEIDEL,

Commission Merchant.

Box 662, Habana, Cuba.

Will be happy to accept the representation of first-class houses manufacturing hardware.

Reference :

COLLINS & CO., 212 Water Street, New York.

Wanted.

An Experienced Mechanical Draughtsman.

Address.

THE BURDEN IRON CO., Troy, N. Y.

Wanted.

A situation in the Hardware business, where there is a prospect of getting on the road as trav-

Office of The Iron Age, 83 Reade St., New York.

Wanted.

A party to invest, say \$3000, in an Iron Mining Company and take position as Secretary and

Wanted.

Treasurer, or Superintendent. Address "BLOOM,"

Office of The Iron Age, 220 S. 4th st., Phila., Pa.

A gentleman with over 30 years' experience in the Hardware business is desirous of obtaining a position as Buyer or Salesman in a first-class Hardware house. Employment more of an object than salary. References first-class.

Address
Office of The Iron Age, 83 Reade St., New York.

Wanted.

A salesman familiar with the Wagon, Carriage and Agricultural manufacturing trade, also with the Hardware and Iron jobbing trade in the west. 2116 Market St., St. Louis, Mo.

HARDWARE.-WANTED

purchaser for a wholesale Hardware House already established, and doing an excellent business, situated in the city of Cincinnati. The business as a whole or a controlling interest, can be obtained. The Great Southern Railroad, leading into the heart of the South and Texas, opens up such an extensive territory that the business can be enlarged as capital and desire may dictate. A satisfactory showing can be made to any parties wishing to consider the purchase. Address,

Office of The Iron Age, Cincinnati, O.

Wanted.

A New England Agency for a Hardware Mfg. Co. by a party who visits all the leading Hardware dealers in the N. E., with a line of goods he already represents. Address

P. O. BOX 3043, Boston.

WANTED.—Situation as Superintendent or Designing Engineer in machine or iron works by a man of 18 years' experience, now holding a similar position. Address A. B., Box 50.
Office of The Iron Age, 83 Reade St., New York.

Special Notices.

Second-Hand and New Machinery.

The following Tools ready for delivery at The following early date:
Two Lathes, 15 n. x 6 ft. New.
Three 30-in. Upright Back-Geared Drills. New.
Four 22-in. Upright Back-Geared Drills. New.
One 20-in. Upright Back-Geared Drill. New.
One 16-in. Upright Back-Geared Drill. New.
One 11 in. x 5 ft. Lathe. New.
One 11 in. x 5 ft. Foot Lathe. New.
IN STORE.

One 11 in. x 5 ft. Lathe. New.
One 11 in. x 5 ft. Foot Lathe. New.
IN STORE.
Three Lathes, 22 in. x 12 ft. New.
Four Lathes, 18 in. x 3 ft. New.
One Lathe, 17 in. x 3 ft. New.
One Lathe, 17 in. x 3 ft. New.
One Lathes, 16 in. x 6 ft. Wood & Light.
One Lathes, 16 in. x 6 ft. Blaisdell.
Two Lathes, 14 in. x 4 ft. 6 in.
One Planer, 30 in. x 3 ft.
One Crank Planer, 12 in. stroke.
One Milling Machine. No. 4. Wood & Light.
One large Index Milling Machine.
One No. 12 Bolt Cutter. New.
One Knowles Pump, No. 4. New.
One Knowles Pump, No. 2.
One 100-ton Hydraulic Press and Pump.
One Peck, Stow & Wilcox Foot Press.
One 16 ft. Daniels Planing Machine.
One pair Paper Rolls.
One pipe Cutting Machine.
ENGINES AND BOILERS.

ENGINES AND BOILERS. ENGINES AND BOILERS.

One Horizontal Engine, 9 in, x 16 in. New.
One Corlies Beam Condensing Engine, 900 H. P.
One Portable Engine, 8 in, x 10 in.
One Portable Engine, 6 in, x 10 in.
One Horizontal Engine, 3 in, x 6 in.
Two Hor. Tub. Boilers, 4½ x 13½, 43 4-in. tubes.
One Hor. Tub. Boiler, 4 x 13, 34 4-in. tubes.
One Locomotive Steel Boiler, 25 h. p.
One Roots Engine.
Shafting, Pulleys, Hangers, &c.

J. Gray's Machinery Depot, 37 Dey St., N. Y.

For Sale.

The Little Schuylkill Rolling Mill,

at Milldale, Schuylkill County, Pa., near Port Clinton, on the line of the Philadelphia and Reading Railroad, consisting of a Merchant Bar Mill in complete running order, with a splendid water power sufficient to run the mill two-thirds of the year. Engines, Boilers, Foundry and Machine Shop, with Lathe for turning rolls, and all other appurtenances necessary to commence operation at once. Together with dwellings, stables and large tract of land, to be sold low if applied for soon. For further particulars address or apply to J. O. RICHARDSON,

No. 232 Dock street, Philadelphia.

For Sale.

Palo Alto Rolling Mills,

Near Pottsville, Pa.,

On the Main Line of the Pottsville and Reading Railroad.

These mills are in good repair, and can be started in two days' time. Rolls for T-Rails 12 to 70 lbs. per yard, and for Street Rails 18 to 70 lbs. per yard. Guide Mill Train for Merchant Iron 14 to 1 inch. Rolls for Merchant Bar, round and square, up to

Action for Merchant Bar, round and square, up to 4½ inches.

Number of Puddling Furnaces in both mills, 30; Heating Furnaces, 0; all with boilers attached.

Also, Foundry, Machine Shop, Blacksmith Shops, Iron House, Roll House, Carpenter and Pattern Shops, Stables, Handsome Dwelling for superintendent, 11 Tenement Houses, a Brick Office, and ample grounds for stock and cinder.

For further particulars address

Messrs. LEE & McCAMANT, Extrs., Pottsville, Pa.

THOS. F. WRIGHT, 1804 Race st., Philadelphia, Pa HUGH W. ADAMS, 56 Pine st., New York.

For Sale.

One so-inch Engine, one 100-horse Locomotive Boiler; two large Pulleys, 30-inch face; a 20-inch Rubber Belt, &c. All in good order, and will be gold for less than value to make room for larger. running at
AKRON RUBBER WORKS,
Akron, Ohio.

For Sale.

Ten Double Acting Power Punching Presses, Ar order. Eight Single Acting Power Punching Presses, Ar order. Most of the double acting presses are the No. 3 Waterbury Press; the single acting, No. 2. One large Bliss & Williams Punching Press. One hundred and twenty-seven Foot Presses in Ar order, most of them square slides, Address, THE GEORGE PLACE MACHINERY AGENCY, 121 Chambers and 103 Reade sts. N. Y.

For Sale.

Stock of hardware, stoves and implements, and store furniture, in one of the best towns in Kansas HARDWARE,

Address

Box 366, Salina, Kansas For Sale.

The Industrial Works of Shamokin, owned and successfully carried on for a number of years by the late Wm. Brown, deceased, consisting of Foundry and Machine Shop, and a large stock of Patterns regarded as part of the property. Boiler Shop, Blacksmith Shop and Factory for the manufacture of heavy coal screens. Well located in the borough of Shamokin, Pa., with the best facilities for shipping by rail, and surrounded by a district contributing all the work that a shop of that kind can possibly turn out. The works are now running, but in a very short time possession can be given. Easy terms of payment are offered to suit a purchaser of limited capital.

Offered for sale by
M. McILVAIN & SONS,
Reading, Pa.

For Sale.

Hardware Stock and Business. Located in one of the best towns of Northeastern Ponnsylvania. Stock clean and well assorted, suited to the requirements of the trade where located. Business of 30 years' standing. For terms and full particulars apply to JAMES S. KUHN, Towanda, Pa.

For Sale or to Rent.

A large brick Foundry and Machine Shops for sale or to rent on North River, at this place. Terms accommodating. Address JOHN W. F. ALLEMONG,

BRIDGEWATER, Rockingham County, Virginia.

WANTED.—A situation in a Hardware house by a young man who is competent to fill a responsible position and willing to work hard and pay strict attention to business. Can furnish first-class references, Address THOMAS, Office of The Iron Age, 83 Reade St., New York.

Special Notices.

OF INTEREST TO FOUNDRYMEN.

For Sale or to Rent,

For Sale or to Rent,

The works recently used by us as a Hollow-wareFoundry. They have capacity for 70 or 75 molders, a good cupola capable of melting 20 tons
easily, an engine, with shafting, machinery, elevator and root blower, sufficient mounting and storerooms, carpenter shop, polishing and plating
rooms, and all adjuncts necessary for economy.
A railroad, connecting with all the roads centering
in the city, runs contiguous to the works, the
Detroit river being 'a half block away, affording
most excellent shipping and receiving facilities.
The works are in a cheap iron and fuel market;
labor is reasonable and generally plentiful. For a
stove manufactory they are specially adapted,
will be sold for partly cash, partly time payments,
or let at a moderate rental from January ist.
Apply to DETROIT IRON & BRASS MFG CO.,
Detroit, Mich.
Or to D. M. THOMAS, Secretary. Or to D. M. THOMAS, Secretary. Chemung Hollow-ware Works, Elmira, N. Y.

Bolt, Nut and Washer Machinery For Sale.

Six 1½-in, double-head Bolt Cutters with automatic stop, and powerfully geared, and particularly adapted to cutting Track Bolts or large quantities of Bolts of various sizes.

Four ¾-in, double-head Bolt Cutters, the same as are used in all large bolt factories.

Two 4-spindle and One 6-spindle Nut Tappers,
Two No. 2 Washer Machines for making all washers to ½-in.

Two No. 2 Washer Machines for making all washers to 3 in.
One No. 1 Washer Machine for washers up to 2 in. Bolt Size.
Two Bolt Headers with latest and best improvements for all bolts to 1 in. Strongest heads and largest variety of any machine in use.
One No. 1 Nut Machine for 13/2 in. Nuts, hexagers of sure of the strength of the st gon or square.
Two No. 2 Nut Machines for No. 1 Nuts, and all under. Two No. 3 Nut Machines for ½ in. Nuts, and all smaller; 1000 lbs. of ¾ in. Nuts made per day.

YORK & SMITH,

Cleveland, Ohio.

FOR SALE. That VALUABLE FURNACE PROPERTY and Plant, situated in Tuscarawas County, Ohio, on the P. C. & St. L. Railroad, and the Ohio State Canal, known as THE GLASGOW IRON WORKS, consisting of two Blast Furnaces, 72 ft. high, erected in 1874; two Blowing Engines, eight Bollers, 60 ft. long; four Hot blast Ovens; two Furnace Hoists, with two pairs "Crane Bros." Hotsing Engines, and all modern furnace appliances and plant. Also Locomotive Cars, about three miles of Railroad, a. "Blandy's" Saw Mill with engine and boiler, a Clay Mill with engine and boiler, two 5th. and two 5th. Donkey Pumps, and about 430 feet of 5th. cast-from pipes, as well as Workmen's Houses, Offices, &c. & Also about 1000 acres of Ore, the beautiful and the signal of the control of the property, some signal of the four seams of Coal in the projecty, some are affected furnace use; also Fire Clay of excellent quality, all already opened up by drift mines. Offers for the above will be received by JOHN FREW Port Washington, Tuscarawas County, Ohio.

For Sale.

SECOND-HAND DROPS AND LIFTERS

> BEECHER & PECK, Lock Box 122, New Haven, Conn.

For Sale. Two Corliss Condensing

Beam Engines, 32 in, x 72 in, cylinders. Address, THE HARTFORD ENGINEERING CO., Hartford, Conn.

For Sale.

Mount Vernon Iron Works, Virginia. Located in Augusta and Rockingham Counties.

This property consists of over 30,000 acres land, on which are valuable deposits and mines of ore and tracts of timber. The improvements consist of one forge with five fires and run-out, with Shenandoah river for power; mansion house, stable, dwellings, &c. One furnace with hight of 24 feet and bosh 8½ feet. The forge is within one mile of Weyers Cave station on Shenandoah Valley Railroad, 17 miles from Waynesboro. This road, recently completed, runs between forge and furnace.

Apply to

P. O. BOX 185,
Baltimore, Md.

P. O. BOX 185, Baltimore, Md.

For Sale.

One Chapin Rivet Machine, for making rivets

cold. Has been used but little.

Address LOCK BOX 1459. Pittsburgh, Pa.

For Sale.

One Iron Planer, "Hewes & Phillips" make planes 57 inches wide and 25 feet long; two heads on crosshead in first-class order. For sale by THE GEORGE PLACE MACHINERY AGENCY, 121 Chambers St., New York.

For Sale.

One of the best and most reliable OIL TORCHES ever made. Thousands of them now in use by Rolling Mills, Machine shops, and similar manufacturing establishments throughout the United States, and all giving perfect satisfaction.

For further information and circular address the DANGLER VAPOR STOVE & REFINING CO., 97 Ontario St., Cleveland, Ohio.

For Sale.

A well-selected stock of Hardware in a thriving ounty seat in Pennsylvania. Stock all first-class but not large. For particulars address

PENNSYLVANIA. Office of The Iron Age, 83 Reade St., New York.

FOR SALE LOW.—ENGINE.

A Vertical High-Pressure Steam Engine, com plete. Cylinder, 24 in. by 48 in. Built by A. J. Sweeney & Son. Can be seen in daily use at our

LA BELLE IRON WORKS,

For Sale.

A 3500-lb. Fairbanks Platform Scale, and Ventilator Tops. 53 GOLD STREET, N. Y. City.

LEIGH'S DISCOUNT BOOK

Specially arranged for the use of the HARD-WARE TRADE. Acknowledged by all the best work of the kind ever published. Just what is needed when taking stock.

Price by mail, One Dollar.

Address

St. Leigh,
St. Louis Elevator, St. Louis, Mo.

LARGE COMPANY WANTS A MECHAN ical Engineer who understands, theoretically and practically, steam and machinery, and who can manage men, run the machine shop, foundry, &c. He will not be required to attend to the commercial business. To a competent man a libera salary will be paid. Address, giving age, married or single, references and salary expected,

BOX No. 262, New York P. O. Blast Furnace For Sale.

One of the very best properties in the state o Pennsylvania, including farm of 125 acres, con-siderable portion of which is Ore Land. Cap acity, 275 tons Pig Iron per week. For full par ticulars apply to

J. O. RICHARDSON, No. 232 Dock St., Phiadelphia.

Hardware Business for Sale,

In thriving village of 5000 inhabitants in Southern New York. Three lines of railroads to New York. Doing about \$50,000 business a year. Trade could easily be increased to \$70,000 by putting in stock bar iron, steel, &c. Satisfactory reasons furnished for selling. Please address

66 C., 99

Office of The Iron Age, 83 Reade St., New York

Copartnership Dissolution. NOTICE is hereby given that by the death of the juntor partner, Mr. Nathan Authony, the firm of BRADFORD & ANTHONY is this day dissolved. The affairs of the firm will be settled by the under signed, the sole surviving partner.

Boston June 18 1822 MARVIN L. BRADFORD.

MARTIN L. BRADFORD.

Boston, June 12, 1881.
All communications in regard to the affairs of the late firm should be addressed to BRADFORD & ANTHONY, Boston, Mass.

MARTIN L. BRADFORD hereby gives notice that he will continue his business under the name of "BRADFORD & ANTHONY."

The estate of the late Nathan Anthon s to be in no way interested in the future business, whether con-ducted under the name of Bradford & Anthony or otherwise. The estate of the late Nathan Anthon s to be in no way interested in the future business, whether conducted under the name of Bradford & Anthony or otherwise.

All business communications should be addressed to BRADFORD & ANTHONY.

Importers, Manufacturers' Agents and Dealers in Cutlery, Fishing Tackle, Skates.

See advertisement first issue of each month.

HOW TO

KEEP BOILERS CLEAN, And Other Valuable Information.

A book sent free to engineers and steam users by JAMES F. HOTCHKISS. 84 John St., NEW YORK.

The Sherman Process Co. 9 Pemberton Square, Boston, Mass., Issue Licenses to use the Process for the

Manufacture of Iron and Steel In the Bessemer Converter, Crucible, Siemens-Martin, Puddling, Blast and Cupola Furnaces. The use of this Process improves the quality of the product, saves fuel and labor, and does not re-quire any change in furnace or manner of working See page 17 of The Iron Age of Oct. 25th, 1877.

NOTICE.

TO THE HARDWARE TRADE, Retail and Wholesale.

Before buying, send to me for quotations. Will give special figures lower than market rates on a large line of Shelf Hardware and

A. W. WHEELER, 141 Lake St., Chicago.

BUSINESS CHANCE.

A first-class Retail Hardware Store in the vicin ity of New York City for sale on reasonable terms. One who desires to acquire a business can be employed for a month or two to get ac-quainted with the entire place. Address

P. O. Box 892, N. Y. Bissell & Welles.

Wholesale Hardware Auctioneers 83 Chambers and 65 Reade Sts., N. Y. Sales held weekly for the trade. Consignments olicited. We refer to the leading Manufacturers

MALLEABLE IRON.—Situation wanted as foreman, by a man of twelve years' experience in that capacity, who is thoroughly acquainted with the manufacture of Malleable from from air furnaces in all its details.

Understands building furnaces and ovens.
Address

J. F. W. and importers.

Address Office of The Iron Age, 83 Reade St., New York. Sanderson Bros. Steel Co.

Forty shares for sale at a discount.

EDWARD FRITH & SON,
241 Pearl street, New York

MOA KORLEHT

Special Notices. To Railroads, Mill Owners and Contractors.

STRUCTURAL IRON WORK FOR SALE.

Having purchased the Ironwork of the Main Centennial Building, situated in Fairmount Park, Philadelphia, we now offer the same in sections to suit purchasers. These buildings can be sold in widths varying from roo to 68 feet, and of any hight, from 40 feet down to 25 feet, and of any hight, from 40 feet down to 25 feet, and in length from roo to 700 feet. We have eight Spiral Stairways, in all over 800 steps.

Plans showing how all parts of these buildings may be utilized in railroad depots, &c., have been prepared by Messrs. Wilson Bros. & Co., of Philadelphia, civil engineers and architects, and can be seen at the office of Mackintosh, Hemphill & Co., limited, Fort Pitt Foundry, Pittsburgh, Pa., or at the office of the company, at Centennial Building, West Philadelphia.

Wishing to dispose of the above quickly, we are prepared to offer great inducements to purchasers, both as to low price of material and promptness of delivery. Any communications addressed to the CENTENNIAL STRUCTURAL CO., care of Mackintosh, Hemphill & Co., Limited, will receive prompt attention.

For Sale.

An old and well-established

IRON FOUNDRY AND MACHINE SHOP.

doing a large and lucrative business in the

CITY OF DETROIT.

Engine and other patterns modern and abreast of the times. Reason for selling, failing health A. B. C., of owner. Address Detroit, Mich.

STEEL:

Its History, Manufacture, Properties, and Uses.

Its History, Manufacture, Properties, and Uses.

By J. S. JEANS,

Secretary of the Iron and Steel Institute.

Section I. History of Steel; Chap. 1. History of Steel; 2. Early History in England; 3. Progress of Invention; 4. History of Bessemer Process; 5. Siemens-Martin Process; 6. Other Steel-making Processes; 7. Steel in America; 8. Germany; 9. Frânos; 10. Austria; 11. Russis; 12. Sweden; 13. Other Countries.—Section II. Manufacture of Steel; Chap. 14. Commentation and other Methods; 15. Manufacture by Bessemer Process; 16. Siemens-Bartin Process; 17. Other Methods; 18. Commentation and other Methods; 18. Manufacture by Bessemer Process; 18. Siemens-Bartin Process; 19. Other Methods; 19. Commentation and other Methods; 19. Manufacture by Bessemer Process; 19. Siemens-Bartin Progress; 19. The Use of Manganess; 20. Spiegeleisen; 21. Suiphur in Steel; 22. Mictonical Tests of Steel; 24. Analysis of Steel; 24. Mechanical Tests of Steel; 25. Analysis of Steel; Section IV. Uses of Steel; Chap. 26. Application of Steel to Railway Purposes; 27. To Shipbuilding; 28. To Eridge Building; 29. To General Purposes; 29. Guns and Armor Plates; 31. Other Furposes.

Prics. Section Manufacture by Cher Furposes.

DAVID WILLIAMS, 83 Reade Street, . - New York.

For Sale.

On reasonable terms, to reliable parties, an es tablished paying Hardware business in La Grange, Ga. The only concern of the kind within the Ga. The only county. Address
P. O. BOX 2071, New York.

For Sale. ONE 40-LB. BRADLEY CUSHIONED HAM-

MER, latest pattern. Will be finished and ready for delivery in a few days. For particulars, ad-H. WIARD.

Care of Syracuse Chilled Plow Co., Syracuse, N. Y.

Wanted.

A live, active firm desires to act as Manufacturers' Agents in Chicago and the West. Please ad-MANUFACTURERS' AGENTS, Office of The Iron Age, 36 & 38 Clark St., Chicago, Ill.

Wanted.

A situation as traveling salesman. Have had some experience in the Hardware business, and can sell goods on the road. Will travel either for a moderate salary, or on commission.

Address
Office of The Iron Age, 83 Reade St., New York.

Partner Wanted.

In a well-established Hardware business. Capital required, \$4000 to \$5000; yearly sales, \$40,000; stock from \$10,000 to \$32 000; good profits; managed by a practical hardwareman. Address LUDWIG & CO.,

Buena Vista, Colora-lo.

For Sale.

The retail Hardware business in Canastota, N. Y.; stock about \$10,000. Sold on account of poor health of the proprietor. Doing a large and flourishing trade. Address for further particulars, H. C. JARVIS,

Canastota, Madison Co., N. Y.

For Sale.

A Beam Engine in perfect order ; 24-in. cylinder, 4 ft. 6-in. stroke. Automatic cut-off. Also, sev eral powerful Hydraulic Pumps as good as new. Apply by letter to M. W. GRISWOLD,

27 Beekman St., N. Y.

WANTED.—By a young man with two years' experience in the retail hardware business, on or before Jan. 18t, a position as salesman in a wholesale house. Best of reference given.

Address LOCK BOX 44, Lockport, N. Y.

Position in Hardware Stock, wholesale or retail; competent party; ten years' experience; acquainted with all details, manufacturers, &c; capaple of managing. Address N. E. V., Office of The Iron Age, 36 Clark st., Chicago, Ill.

WANTED.—A young man wants a position in a first-class Hardware house as traveling sales-man. Has had nine and a half years' experience in the General Hardware business. Best of refer-ences.

WANTED—By a young man with five vears' comparison of the hardware trade, a position as Salesman for a Wholesale Hardware house or manufacturing firm. Can give references in New York and also in Southern cities. Address R. W. S., Office of The Iron Age, 83 Reade St., New York.

Trade Report.

WEDNESDAY EVENING. Dec. 14, 1881.

With the close of the week, at the last nour of business to-day, it became known in Wall street that the entire amount of bonds (\$5,489,500) included in the 106th call had been offered at the Sub-Treasury and accepted by the Government. Immediately the rate for call loans fell to plain 6 %, in prospect of continued liberal disbursements from the Treasury, as the prepayment of \$5,000,000 more a week hence is confidently anticipated. There was a further feeling of relief in the better prospect that both Houses of Congress will favorably consider the proposition to refund the debt at 3 %. The conservative tone of the President's Message and accompanying reports from the Secretaries, have gone far to reassure those who had any doubts respecting the stability of our financial system, or were apprehensive of recommendations tending to unsettle our trading and manufacturing interests. The suggestions from these sources respecting the silver question, internal revenue taxes, the tax on bank deposits, &c., are all in accordance with views entertained by our best political econc-

Government bonds were strong to-day for the extended 5's; the extended 6's declined 14, and the 4's and 41/2's were unchanged. Considerable purchases have been made within the week by financial institutions, other corporations and individuals, for purposes of investment.

The money market has been stringent all the week, as high as 1/8 % being paid for call loans, in addition to legal interest. First class commercial paper commands 6 %, and only the highest grades are in demand. It is remarked, however, that money has not been so stringent this month as it was one year ago, when the weekly importations of gold averaged over \$3,000,000.

The foreign exchange market continues dull and steady. There is no change in the posted rates for prime bankers' sterling; the actual rates are \$4.80 @ \$4.80 % and \$4.84

A condition of torpor has characterized the Stock Exchange during most of the week. From this remark may be excepted Louisville and Nashville, Richmond and Danville, Hannibal and St. Joseph, and some other of the specialties, which were more or less active at advancing figures. The market at first was irregular, influenced by active money, but there was a recovery toward the close, with a stronger tone. Comparing sales of stocks at the opening and at the close, the principal changes are as follows :

as follows:

Advanced—N. Y. C. 3/4
Canada Southern... 1
Louisville and Nash... 2/4
Western Union... 2
Northwestern... 1
Columbus, Chic. & 1/2
Ind. Cent... 1/2
Chic., Bur. & Quincy 1
Hannibal & St. Jos... 2/4
Chic., status of the vailroad war is at last

The status of the railroad war is at last more clearly understood. Wm. H. Vanderbilt denies that he is any longer responsible for the disagreement among the trunk lines. He has offered to refer the main point at issue-the question of differential rates-to Chas. Francis Adams, Jr., for final adjudication; but the proposition was rejected, whereupon Mr. Vanderbilt suggests that the business men of the country should settle the dispute.

In general trade business continues quiet, outside of those specialties adopted to the holiday season. The stringency in money has operated as a check, and the specula-tive views of the holders of staple commodities retard the export movement. Within the last day or two, however, there is an ticularly the latter, which is wanted to fill freight room in the fleet of overdue steamers recently arrived and an arrived and overdue steamers. be taken as a sign of permanent improvement. Included in the shipments are 700,-546,387 last year.

next by the trunk lines, and which were agreed upon at the meeting of the trunk lines on Monday, are as follows: First-class, 60 cents; second-class, 50 cents; thirdclass, 45 cents, and fourth-class, 35 cents.

The importations of specie and bullion at this port during the week ending Dec. 9 were \$285,638, consisting of \$189,678 in gold and \$95,960 in silver, as against a total of \$3,581,932 for the week ending Dec. 11 last year. The importations since the 1st of January and since the 1st of August compare as follows with the movement during the corresponding periods last year

- Land Programme at	and Jones .	
Gold	1881.	*58,778,96: 5,372,611
Total		\$64,151,572
Gold	1881,	1880. \$56,804,594 2,178,105
Total	\$24,255,474	\$58,982,699

at \$961,975 below, against \$83,200 below at this time last year, and \$5,583,500 above at the corresponding period in 1879.

The following is an analysis of the bank totals of this week compared with that of last week :

	Dec. 3.	Dec. ro.	Com	parison
Loans		\$314,788,900	Dec.	\$5,32,80
Specie	55,316,800	54,858,900	Dec.	457.90
Legal t'd'rs	15,801,700	15,740,400		131,30
Tot.reserve	71,178,500	70,599,300	Dec.	579,20
Deposits	286,437,500	286,245,100	Dec.	192,40
Reserve required Surplus Circulation. * Deficience	*430,875 20,138,200	71,561,275 *961,975 20,236,400	Dec.	48,100 531,100 98,200

The closing quotations for Gove	rnment
Bonds were as follows: Bid. C. S. 4½ 's 1801 registered	Asked 11434 11456 11756 11876
MINING STOCKS.	

The following were the closing quotations for mining stocks:

American Flag.....

Amie	
Alice	19
Alta Mont 1.90	
Rochtel	1.95
Decoured	20
Bodie	
Buckeye	4
Bulwer 2.50	
Bull Dom 35	40
Bonanza C 6	10
Boulder 3	
Boston C	бо
Discourage	60
Big Pittsburgh 50	
Bradshaw	70
Calaveras 2	
Caledonia 95	
California 42	45
Climax 39	
Consolidated Imperial 7 Consolidated Pacific 7	8
Consolidated Pacific	10
Classalidated Vincinia	
Consolidated Virginia	** *
Chrysonte 4.00	4-75
Cent. Ariz 1.65	1.70
Cherokee 45	65
Dundonbang	
Dunderberg	
Eureka C 11.00	12.00
Findley 25	28
Fa. DeSmet 7.00	8.00
Granville	4
Gr. Prize 15	****
Great Eastern 8	10
Green Mountain 2.00	
Horn Silver	16.50
Hibernia	96
Hibernut	
Hortense	20
Independence 10	XX
fron Silver 2.15	2.20
Lacrosse 21	
Lacrosse 21 Little Pitts	****
Lacrosse 21 Little Pitts 1.75 L. Chief 80	****
Lacrosse 21 Little Pitts 1.75 L. Chief 80	
Lacrosse 21 Little Pitts 1.75 L, Chief 80 Mariposa	4.50
Lacrosse 21 Little Fitts 1.75 L. Chief. 80 Mariposa 60 Moose 69	4.50
Lacrosse 21 Little Pitts 1.75 L. Chief 8c Mariposa 6g Miner Boy 70	4.50 XX
Lacrosse 21 Little Pitts 1.75 L. Chief 8c Mariposa 6g Miner Boy 70	4.50
Lacrosse 21	4.50 XX
Lacrosse 21 Little Pitts 1.75 L, Chief 80 Mariposa 69 Moose 69 Miner Boy 10 Navajo 12 North Stan 12	4.50 28 18 2
Lacrosse	4.50 28 28 20.375
Lacrosse	4.50 21 18 2 10.37 1/2
Lacrosse	4.50 28 28 20.375
Lacrosse	4.50 21 18 2 10.37 1/2
Lacrosse	4.50 210.37 1/2 30 36
Lacrosse	4.50 210.37% 30 36
Lacrosse	4.50 210.37 1/2 30 36
Lacrosse	4.50 210.37% 30 36
Lacrosse	4.50 210.37% 30 36
Lacrosse	4.50 28 20.37 1/2 30 36 3 C5
Lacrosse	4.50 xr x8 2 2 10.37 1/2 30 36 3 c 5
Lacrosse	4.50 210.37 1/2 30 36 3 c 5
Lacrosse	4.50 11 18 2 10.37 1/2 30 36 3.05 1.20 4.00
Lacrosse	4.50 210.37 1/2 30 36 3 c 5
Lacrosse	4.50 11 18 2 10.37 1/2 30 36 3.05 1.20 4.00
Lacrosse	4.50 28 28 20.37 % 30 36 3.55 1.20 4.00 1.00 25
Lacrosse	4.50 21 18 210.37 ¹ / ₂ 30 36 3.05 1.20 4.00 1.90 25
Lacrosse	4.50 xx xx xx xx xx xx xx xx xx x
Lacrosse	4.50 21 28 20 30 36 3 c 5 1.20 4.00 25
Lacrosse	4.50 11 18 2 2 2 30 36 3 c5 1.20 4.00 1.90 25
Lacrosse	4.50 21 28 20 30 36 3 c 5 1.20 4.00 25
Lacrosse	1.20 4.60 1.00 2.037 30 36 3.03 3.03 3.03 3.03 3.03 3.03 3.0
Lacrosse	4.50 11 18 2 10.37 1/2 30 36 36 3.05 1.20 4.00 1.90 25 1.60 18
Lacrosse	4.50 21 22 10.37 1/2 30 36 3.65 1.20 4.00 1.90 25 1.60 18
Lacrosse	4.50 11 18 2 10.37 1/2 30 36 36 3.05 1.20 4.00 1.90 25 1.60 18
Lacrosse	4.50 21 22 10.37 1/2 30 36 3.65 1.20 4.00 1.90 25 1.60 18
Lacrosse	4.50 21 22 10.37 1/2 30 36 3.65 1.20 4.00 1.90 25 1.60 18

GENERAL HARDWARE.

The condition of the market has underrone no change since our last writing. Prices of several lines of goods have been advanced, the particulars of which will be found below.

The manufacturers of Strap and T Hinges held a meeting in this city to-day, but no changes in prices were made.

Sargent & Co. have advanced their prices for Plate and Hook Hinges as follows:

Page in Catalogue.

46—No. 160, Fast Joint Plate Hinges, 6 to 12 in., 7 cents; 14 in. and larger, 6 cents per lb.

46—No. 162, Loose Joint Plate Hinges, 6 to 12 in., 7 cents; 14 in. and larger, 6 cents per lb.

47—Nos. 165, 163, Hook Hinges, 8 to 12 in., 7% cents; 14 in. and larger, 6½ cents per lb.

48—No. 98, Hook Hinges, 8 to 12 in., 7 cents; 16 in. and larger, 6 cents per lb.

ers recently arrived, and which can hardly lowing discount sheet for the coming season, which is the same in every particular as that used this year. They have issued a 15-page oco pounds of bacon for Havre, the first pamphlet, in which they illustrate some of shipment of the kind to France since last their leading Saws and Tools for keeping spring. The total exports of produce since Saws in order. Its title is "The Saw, How Jan. I this year are \$350,692.330, against to Choose it, and How to Keep it in Order. \$384,281,238 last year; imports of general This little book is full of practical suggesmerchandise, \$397,690,287, against \$450,- tions of great value to mechanics and the trade. The illustrations are very handsome. The new rates for western-bound freights being produced in natural colors. Each which will probably be adopted after Jan. I bundle of Disston's Saws will contain one of

JANUARY 1, 1882.

HENRY DISSTON & SONS. Saw, Tool, Steel and File Works, Front and Laurel Streets, Philadelphia, Per cent.

As some parties are imitating the goods manufactured by us by copying our num-bers, styles and names, thereby deceiving the mechanic who desires our make of saws, we would request our customers to be careful in making their purchases. We guarantee to produce a better article at the same price than any other house in the world. All goods bearing the brand of Henry Disston & Sons are fully warranted. The above will be Factory Rates for the coming season, and bills unpaid by the 20th

We have received the following: [No. 41/2.] DISCOUNTS.

Forty-five per cent.-discount on all Locks, Knobs and Lock Furniture, new catalogue, 1881, pages 341 to 596. From revised list prices, September 20th, 1881. Two per cent. may be deducted from invoices, if paid

within 30 days. Reading Hardware Co.
Reading, Pa., December 2, 1881.
We have received from the secretary of
the American Pocket Cutlery Association the following announcement:

New York, December 10, 1881.

From and after this date the selling prices of all Pocket Cutlery made by members of the American Pocket Cutlery Manufacturers' Association will be based on the recent classification of the same by said association, and all previous quotations are hereby withdrawn. For prices apply to members of the association as follows: New York, December 10, 1881. THE MILLER BROS. CUTLERY CO.,

SOUTHINGTON CUTLERY Co., ULSTER KNIFE Co., NORTHFIELD KNIFE Co., AMERICAN SHEAR CO., AMERICAN KNIFE CO. Union Knife Co., NAUGATUCK CUTLERY CO., SPRAGUE & BOYDEN, HUMASON & BECKLEY MFG. Co., EMPIRE KNIFE Co., GARDNER MFG. Co. NEW YORK KNIFE CO. THE WALDEN KNIFE CO., CENTRAL CITY KNIFE CO., Excelsion Knife Co., Canastota Knife Co.

A. NEAL, President. G. B. PIERPONT, Vice-President. F. H. CATLIN, Secretary and Treasurer.

The Standard Tool Co., Athol, Mass., manufacturers of Chaplin's Patent Try Squares and Levels, Centre and T-squares Graduated Steel Rules and kindred goods, illustrate in an advertisement on the 17th page, some of their specialties, to which we invite the attention of the trade.

The manufacturers of Bench and Mold ing Planes have advanced their prices to discount 25 per cent. for first quality Bench Planes, and discount 30 for second quality, and Fancy Planes of all kinds discount 20 per cent. We print below the revised discounts of the Sandusky Tool Company for these and kindred goods.

DECEMBER 9, 1881. SANDUSKY TOOL COMPANY, SANDUSKY, OHIO. Graham & Haines, Agents, 113 Chambers street, New York.

Former rate sheets and all price asrangements are hereby made void. Notice—No Planes made of Ogontz Brand except Smooth, Jack, Fore and Jointer Planes. All invoices made at prices ruling at date of shipment. Prices subject to change without

notice to customers.
Discount
Page. Per cent.
2-22 Rench Planes, 1st grade, all kinds except
sifeh as are marked "net."
2-2 Wancy Planes, all kinds
2-27. Ozontz Tool Co., 2d grade Bench Planes 30
At Morris Patent Iron Planes
46, Solid Steel Planter's Hoes
46, Solid Steel Scovil Pattern Hoes30
45, German Pattern, Handled, Hoes40
40-44, Plane Irons, all kinds
47, Brad Awls and Tools
57. Gauges 3
57, Saw Handles
58, Plane Handles
58, Chalk Line Reels
59, Chisel Handles
60, Bench Screws25&10
60, Tail Screws
60, Pile Handles25&10
61, Brad Awl Handles
6z. Auger Handles
61, Cross Cut Saw Handles35&10
61-62, Hand Screws
02, Rolling Pins, Beet Malis and Potato Mashers, 3
63-65, Coopers' Tools and Jointers15&10
66, " Drivers
66, Froes
68, 69, Mallets (except iron ring mallets)10&10
68, Round Iron Ring Mallets, Nos. 15 and 1725&10
69, Bung Starters35&10
6. Caw Buoka
70-75. Handles, Whip Stocks and Pointers. net, list
Terms—30 days from date of shipment.
The manufacturers of Iron Rivets adopted

on the 10th inst. the revised price list which we print below. The revision is such that one discount applies to the whole list:

REVISED PRICE LIST, DECEMBER 10, 1881. Iron Rivets in Bulk.—Price per Pound.

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33	3	26	24	21	19	17	17	36	16	10	14	13	13	121/2	121/2	12%	111%	7-16.		
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45	24	9	27	33	20	18	17	17	17	10	H	14	14	13	EI	13		×		
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Rivets made from wire smaller than No. 14, all

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7 6	6	64						14		20
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24	1 8	16						14		90
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	12	. 66						13		19
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5-16.								25		31
X.								25		31
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3-16.	****	+ 2 . 81						30		36
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II								36	4	42
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10	68							99		95
12	64									28
14	60							24		30
1	lb							27		33
x34	60		1					20		37
136	66							22		AT
236	44							. 36		47
2	86							40		52
236	06							47		63
3	44							53		72
334								58		80
4	16							64		88
5	64							75	2.	
5	60							90	1.	26
2	66							1.05	1.	50
8	84							1.90	1.	70 80
9	86							1.27	X.	80
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Bloc	ek an	d Ca	TIM	ge r	rice	per	C.	sers or	100. ea	cn.
Bloc	ek an	d Ca	TTIM	P	rice	per	C.	ers of	100. ea	cn.

Black and Tinned Iron Rivets in Bull

Price per pound.

60	7	6	5	· · · · · · · · · · · · · · · · · · ·	1 in	3	Size.	
9	H	19	#	16	14 00	15	32	
IO	14	14	16	19	80 (H)	10	3%	-
11	14	16	00 00	21	24	24	×	
13	16	M 00	21	12	27	37	34	
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(A)	8	8	6	ti	00	00	1%	
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OE	36	41	\$	UN GO	8	8	3%	
33	to	3	57	8	75	75	w	
8	40 80	27	8	75	200	20	75	
#	2	2	74	00	94	2		

Prices on all Rivets subject to change without Black and Tinned Iron, in M. packages. Block and Carriage, in C. packages. Iron Rivets, in bulk, or per pound. Black and Tinned Burrs.

The American Corow Co have following discount sheet under date of the roth instant:

AMERICAN SCREW COMPANY'S DISCOUNT SHRET. DECEMBER 10, 1881.

Per cent.

Flat Head, Iron, Wood Screws. 35
Round Head, Iron, Wood Screws. 30
Flat Head, Brass, Wood Screws. 35
Round Head, Brass, Wood Screws. 35
On Flat Head, Brass, Wood Screws. 35
On Flat Head Blued, 2½ per cent. will be added
to net amount of invoice.

Iron Black, Iron Tinned. 40
Block and Carriage Rivets. 40
Rivets in Bulk. 40
Burrs. 40
Philadelphia Pattern Tire Bolts, New Philadeldelphia list. 75

a kind**Flat Head Brass Machine Screws *Kound "
*Fillister Head Brass Machine Screws, 10 gross of a kind....

quantities.

*On Machine Screws, made to order, differing in length, size, thread, or head, from our regular Standard Flat and Round Head Machine Screws, special prices will be given on application, and also on Fillister Head Machine Screws when ordered in less quantity than ten gross of a kind.

Terms, cash 30 days. Freight prepaid to New York, Boston, Philadelphia and Baltimore; and on Rivets to principal points on or east of Mississippi River. Except on Rivets, freight is not prepaid to other cities than above mentioned, but will not exceed rates from New York City. Prices not guaran-teed, and subject to change without notice.

The Clark Mfg. Co., Buffalo, N. Y., have issued, under date of the 5th instant, a revised discount sheet to apply to their 1881	French Window Catches
catalogue. They say, "We shall issue no catalogue for 1852." The revised discounts	214, Boor Buttons, Nos. 49 to 54 and Nos. 40
are as fellows; THE CLARK Mrs. Co. Discount Sheet for 1881 Catalogue. Prices not	114, Door Buttons on Plates, Nos. 60 to 64 115, 116, Thumb Latches. 117, 116, Thumb Latches. 117, 116, Thumb Latches.
guaranteed and subject to change without notice. On all bills paid within ten days from date of invoice, by draft on New York, we will allow a further discount of a per cent, for cash.	10, 75. 116, Barn Door Latches 119, 120, 121, Thumb Latches, change list, No
Page of 1881 Discount, Catalogue. Per cent. 7-76, Rim and Mortise Locks and Latches	122-125, Store Door Handles
77-St. Door Knobs	132, 133, Store Door Handles and Locks
95-04, Keys and Blanks. (0 93, Door Butts, Paneled, Loose Pin, Drilled. 45&10 96, Door Butts, Paneled Loose Pin, Drilled, Ma-	142, Door Springs. 143-147, Door Pulls. 148, Letter Box Plates. 140-151, Drawer Pulls.
97, Door Butts, Paneled, Loose Pin, Drilled, Japanued, Nickel Tip	152-157 158, Lifting Handles, Japanned. 158, 159, "Brass, Chest Handles
98, 99, Blind Hinges, Surface, Nos. 1, 3 and 5	160, 161, Chest Handles 152-161, Hooks, Wardrobe, Hat, Celling and I and Coat.
36. 20, 163, Blind Hinges, Surface, No. 60. 60, 103-103, Fastenings, without Spring. 66 204. Hinges, Mortise, No. 2, 4, 45, 6, 8 1 and zo. 9	184, 185, Clothes Line
105. Shutter Hinges, Mortise, Improved, Aos. 3, 2½, 2, 1½, 1 and 0	189, "Lamp. 189, "Sorew. 188, "Cabin Door. 188-nor, Hooks, Bird Cage. 192, Sliding Door Stops. 193, "Rail. 193, "Shutter Sheaves.
106-110, Gate Hinges, Nos. 1, 2 and 3. 90 111, Latches, Nos. 1, 2 and 4. 90 112, Chest Handles, Nos. 1, 2 and 4. 90 112, Boor Button on Plate 113-117, Thumb and Door Latches and Pulls. 40	193, "Raif
118-121, Axle Pulleys, Nos. 10, 20, 30, 40, 50, 60 and 7c. 30 122, Axle Pulleys, Ornamental Face, No. 80. 30 123-125, Sash Locks and Bolts. 33/1	193. Squitter galeaves. 194. Poor Sheaves. 194. Pulleys, Brass Screw, Nos. 7000 to 703c. 194-197. Pulleys, Japanned Screw, Incased, Si , Upright, Ceiling and Swivel. 198. Pulleys, Hot House. 199. Dumb Walter. 190. 200. Pulleys, Tackle and Awning. 187. ac. 1 Clothes Line. 194-18, Frame and Axle. 190. Sash Rollers.
123, Sash Cord Irons 125, Sash Cord Irons 126-128, Hooks, Wardrobe, Coat, Hat, Harness 126, Hand Fluters, Clark's Improved	290, 201, Pulleys, Tackle and Awning. 812, 262, "Clothes Line
130, Mop Heads, in case lots, 12 doz, (per dos.) net. \$1.25 131, Diamond Mop and Brush Holders, in case	Window Spring Bolts.
lots, 32 doz., (per doz) net	221, Flush Rings. 222, Bash Cord Irons. 222-224, Stubs and Plates, Shutter Screws, Li 404 Sash Centers. 233-244, Stubs and Plates.
Oromant Store Pine Dawren Nickel plated	225, Sash Pull Hooks and Plates 225, Sash Pull Hooks and Plates 225, Sash Pull Hooks and Plates 225, Prateer, Picture and Shutter Knobs 226, Santter or Sash Knobs 226, Sash Life:
134, Stove Lid Lifters, Nos. 1 and 2,33/3	220, 230, Saah Lifts
1331 COMEO 1 00 1344143	236-246, Sash Fasteners, change list. Nos
maturity are subject to draft at sight, with-	Nos 747 750 755 1747 1756 \$3.75 3.00 3.75 11.05 10.50
for same containing Doon Looks Latches L	248, 249, Barn Door Hangers, Nos. 3 to 8, Nos. to 20 and Nos. 71 to 74. 246, 249, Barn Door Hangers, Nos. 23 to 32, No. 11 to 14 and Nos. 61 to 64.
ordered, a small charge will be made for the case containing the goods.	250, Barn Door Rollers 150, Pulls, change list, No. 8, \$2.20 151, Rail, change list, No. 3, \$0.00 150, \$6.04 1.5.
firm. Stocks are said to be light, but fairly	251, Barn Door Stays. 252, 253, Hay Fork Pulleys. 254, 255, Grindstone Fixtures and Friction Ro
assorted. We quote: 10d. to 60d., \$3.30 @ \$3.40, net, according to size of order. The Reading Hardware Company have	25f, 257, Thimble Skeins and Pipe Boxes, Scre Bolts and Wrenches. 257, Wagon and Cart Boxes. 258, Cabinet Makers' Shaves. 258, Saw Clamps, change list, No. 20, \$19.
conforming their prices to the recent ad-	58, Saw Clamps, change list, No. 20, \$19
goods. These prices are subject to an extra	tist, No. 25, \$5. Tracks.
December 1, 1681. [No. 5.] DISCOUNT SHEET FOR READING HARDWARE COM-	62, Melting Ladies. 62, Well Wheels and Hoisting Pulleys. 63, Porch Irons, in Bulk, Nos. 2 and 3, \$0.06½ pi pound: Nos. 4 and 5, \$0.08. 63, Porch Irons, in Papers, Pump Fixtures an
Page in 1881 Dis. per / cent. 12	64-267, Foot Scrapers, change list
Measuring Pancets	\$1.60 6.00 1.75 2.20 67, Sash Weights 56, 260, Casters, Store Truck. 100-273, Casters, Plate, Plano Forte, French, Be- and Bracket 14, 278, Bed Fasts.
8, Coffee Mills	The state of the second transfer of the second the second transfer of the second transfer o
9, Scale Weights	no. Head Board Hooks and Eyes, and Few Bac 7, Table Leaf Supports and Refrigerator Ven- tilators 7, Quilting Frame Clamps
Parliament, No. 12	a, House Bells and House Bells on Car
24, "Parliament, No. 12	100, 3, Slide Bell Pulls
Screws	6, 287, Window Shade Racks. 8, 289, Shade Brackets, Roller End. Quoits and Cork Presses. 9, Dumb Bells.
	9, Dumb Bells 9, Line Cleats. 2, Waffle Irons 1, Potato Mashers, Ice Picks, Axes, Can Open- ers and Flab Scalers.
40, 41. "Bronze Metal, Nos, 66 and 65	2, Stove Shovels and Spring Coal Tongs. 2, Stove Pipe Dampers. 3, Stove Cover Lifters. 23,& 4, Rubber Mops, Lemon Squeezers and Egg
12, 44. Bronze Metal, Nos. 6a and 65	4. Rubber Mops, Lemon Squeezers and Egg Benters. 5. Boot Jacks and Foot Rests, change list, No. 6. \$2.85. 6. Carpet Stretchers and Lamp Trimmers. 6. Scissors and Shears. 7. Cuttiag Nippers, Flat Pliers. 7. Tack Hammers. 8. 200 Seap Dishes.
19, 59, " Lull and Porter's and Alston's Shutter	o, Scissors and Shears
4. Shutter and Blind Fasteners, and Turn- buokles	8, 290, Soap Dishes. 9, 301, Sad Iron and Coffee Pot Stands. 9, Polishing Irons. 9, 8ad Irons. Fluting Irons, and Sad Irons and Stands, hange list.
o, Bolts, Tower and B. K. Barrel 60	Nos 45 50 75
2, "Staples 6 8 3- Excelsior Shutter 45 307 Acme Shutter 50 307	-306, Spinners. Scales, Savings Banks, Tool nd Toy Floral Sets. , Floral Sets, Nos. 15, 20, 25 and 35 , 308, Hoes, Rakes, Spades, Forks, Shovels, lammers and Hatchets.
5. Chain	namers and rateners— -j13, Match Safes -j15, Twine Boxes. -j16, Twine Boxes. -j16, Paper File Hooks and Paper Clips. -j17, Paper Files. Cancelers. Pen Racks, raper Weights and Inkstands.
Nos. 1803 to 1805	-331, Paper Files, Cancelers, Pen Racks, Paper Weights and Inkstands
Nos 690 757 762 765 765 \$4.65 400 4.50 4.35 4.85 un	the Peck, Stow & Wilcox Company issue der date of the 1st inst., and to apply the 1880 catalogue. All goods not marke
" Square Door, Nos. 777 to 795	th an asterisk, thus *, are subject to a
-83, Boks, Plush 65 Bolts, Flush 55 and 60 2 Rolts Flush 60	rked thus *, except Squares, net. Steel Iron Squares are subject to an extrement of 2 per cent. for cash.
89, 14 Brass, change list 55 Nos. 3705 3710 3715 3720 \$12.00 12.00 14.00 17.00	DECEMBER 1, 1881, TINNERS' TOOLS AND MACHINES. e in 1880
and Barrel	alogue, cent g, Tinners' Machines, &c add 2: Nos. o and 5, Former and Candlestick For-
and Straight 65 40.1 0, ior, Cupboard Latches 33½ FC 2, 103, Catches 55 41, 1	Nos. x and 2, Stove Pipe, x and 2, Tin Pipe prmer. add (Nos. x and 20, Improved Formers 20, 20, 20, 20, 20, 20, 20, 20, 20, 20,
4, 105, \$15,70; No. 3°5, \$15,70	fron Bottom Gutter Beaders and Rods. 46, Tinners' Machines. 420, Vaugh's Circular Shears. 420, Vaugh's Circular Shears. 420, Vaugh Shears. 420, Va
220	The state of the s

7	HEI	RON	AG	E				. 7		
	68, 69, Snip Shear 70, Bench Platea. 70, Patent Gauge 71-78, Hammers, 70, Square Pan M 80, Solid Punche 80, Hollow Punch 81, Chisels and Go 81, Rivet Seta 82, Cutting Nippe 83, Scratch Awis. 83, Shear and Pun 84, Roofing Tongs Tongs 84, Roofing Folder 85-80, Machines, 690, McNiel's Pater 90, 92, Sundry Mac 91, 92, Sundry Mac			dd 6	369, Stubs a	and Plates				
55 %	70, Bench Plates. 70, Patent Gauge 71-78, Hammers.	and Shear Holder Stakes, Swedges,	Çce.	" 20 " 5	370, 371, Sh 372, 373, Sas	h Lifts	Locks	irta		
20	70, Square Pan M 80, Solid Punche	achines	d	in, 20	375, Shutter 375-377,	Bars, No.	30		•••••	
55 60	81, Chisels and Gr 81, Rivet Sets	rooving Tools	d	is. 20	378, 379, 379,	No.	27 50 And	1 55		50
60	82, Cutting Nippe 83, Scratch Awis.	TS	d	is, 10	380, Boston 380, Shutter	Shutter Be Bars, Nos	Ars, No	8. 10,	13	
10	84. Roofing Tongs Tongs	, Double Seamers	and Gut	ter ld 6	382, Window 383,	Spring B	olts	kets.		
TO	84, Roofing Folder 85-80, Machines, &	t Wallets		20	383, Change 383, Window	List No. 6 Springs	Windo	w Sp	ring to	0 \$4.00
40 40 10	90, Tinners' Malle	kines and Parts	di	8. 26 ld so	385, Sash Pr 385, 386, Tru	ops nk and Sa	sh Roll	era		
10	TIN	NERS' HARDWARE.		Dis.	385, Sash Pr 385, 386, Tru 387, Axle Pu 387, 387, 387,	lleys, Nos Nos	5, 10, 25, 30	15, 20.		
20	Nos	s, change list	1004	331/3	388-390, " 391, Frame I 391, Dumb V					
70 55	95-107, Coffee XIII Nos	\$9.50 \$9.co Nos. 2 2	\$8.50		392, Dumb V 392, Brass Se 392, Change	Vaiter Puller orew Puller	eys ys. No.	175		
50	Wilson's	\$9.50 \$8.50 (6.50 \$6.00	0	Inches	*********	274	2	136	3
50	108, Frying Pans	d Candlesticks	nives	30	392, Screw Pt 393, Change I 393, Encased 193, 394, Side, 394, 305, Yarv 396, Hot Hou 307, Change I No. 125, \$2 397, Single Ta 307, Double 308, Shutter 8	alleys, Nos	180, 1	85	90	1.25
55	113, Snuffers and C	ake Turners	40	£10	393, Encased 393, 394, Side,	Screw Pul and No. 2	leys 10 Upr	ight P	ulleys	
10	114, Coppers, Coppers, Liq. Wieselbers, Liq. Wire Gauges, 116, 117, Fire Pots, 118, 119, Tinned Ke 119-122, Mail. Ears, 23-125, Sauce-Pan 126, Waffe Irons at 27, Toy Sad Irons 177, Liq. Waffe Irons at 20, Cover Lifters, 230, Cover Lifters, 230, Cover Lifters, 200, C	per Handles and	Plumber	331/3	394, 305, Yard 396, Hot Hou	se Pulleys	es Lin	e Pull	eys .	\$2.60
5	115, Wire Gauges.			.10	No. 125, \$2 397, Single Ta	ckle Pulle	ys	3 204 244		50
5	118, 119, Tinned Ke 119-122, Mail. Ears,	ttle and Tea-Kettle Clips and Handle	Ears 40	.40	397, Double 398, Shutter S	Sheaves	Inre			
0	126, Waffle Irons at 127, Toy Sad Irons	nd Coffee Roasters and Stands, Nos. 2	7 to 32.30	012	397, Single Ta 397, Double 398, Shitter S 398, Encased 399, Drawer I 400-406, "4 407-414, "4 415, 417, Card 418, Flush Rit 419, Drawer E 420, Cast Bras	ulls				40&
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5	128, 129, Sad Iron a. 130, Cover Lifters, 131-133, Stove Poke 134, No. 1, Coal Tor 134, 135, Coal Tongs 236, Coal Shovels 137-144, Shovels, To 143, Shovels and Tongir	rs		.50	18, Flush Rin 19, Drawer F	gs and Pe landles	ndant	Pulls.		
5	134, 135, Coal Tongs 136, Coal Shovels	Nos, 2 to 14	50	.60	20, Cast Bras	S Lifting I	Handle	8		
5	143, Shovels and To	ngs, Nos. 61, 62, 63	Read pe	r	19. Drawer E 120. Cast Bras 121. Japanned 121. Wrought 122. Flush Che 122. ** 123. ** 124. 425. Surfi 126. ** 127. French Tra 127. Flush Tra 128-435. Door	est Handle	Chang	e list,	No. 3.	\$3.25.
5	pair yair, Shovel and 130, 151. Fire Sets. 152-150, Kitchen Sets. 153-150, Kitchen Sets. 158, Ring Top Fire. 159, Ring Top Fire. 159, Brass. 160, Fire Dogs, And 161, 162-165, 162-161. 162-162, 163-163. 164-164. Match Plate. 164, Towel Rollers a. 165, Stove Bolts. 165, 166-188, 1700 Rivets. 186-188.	Tong Stands	6	6%	123, 124, 425, Surf	ace Chest	Japan Handie	ned	nned	404
	152-150, Ritchen Se 157, Blower Stands.			£10 4	27. French W	indow Shi p Door Ri	itter f	landle	8	
3	159, Ring Top Fire	Dogs	6	6% 4	28-435, Door 36, 437, Escut 38, Store Doo	Knobs tcheons an	d Lette	er Bo	k Plat	es33
	161, "162-165. "	rons and renders.	6	63/3 4	39,	1.				33
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1	191, Machinists' Wro	enches	608	60 4	61. Cottage I	ch catches	ange li	ist, No	. 15, \$	1.354
1	193, Malleable Wren 194, 195, Steel and It	iches on Squares, in full	cases*	70 4	63, Japanned 64, 465, Pittsb	Thumb Laurgh	atches			2
1	94, 195, Steel and	Iron Squares, les	s than a	0 4	68, Door Pulls	Pull, No.	3		******	
X X	96, Calipers, Compa 97, Pliers and End	usses and Dividers Cutting Nippers	400	30 4	69, 70, Door Pulh	Nos	. I and	12		2
X	98, "Firmer	Chisels, No. 1		10 4 15 4	71-483, Hat as 84-494,	nd Coat He				3
2	og, 200, Framing, and Slicks		6c&	10 4	96-500, Ward	robe Hook House He	S			3
	or, "Firmer I Framing or, Paring Chisels			20 5	60, \$1.50	es Line Ho	ooks, c	nange	nst o	No.
	and Gouges	t of Razor Blade		30 50	51-503, School 503-505, Cloher 50, \$1.50 50, \$97, Harne 58-511, Chand 12, Ceiling Ho 13, Japanned 14, Lamp Hool 14, Lamp Hool	lelier Hool Ceiling H	ooks, N	Ceilin	g Hoo	ks4
2	Knives, \$1 per doze	en. ives	60&	10 51	2. Ceiling Ho	Ceiting Ho	oks			333
3:	ce, 209, Handles 10, 211, Bush Hooks 12, 213, Steel Hatch 13, Boys' Axes	, Corn Knives and	Hooks							
21	13, Boys' Axes 14-217, Hatchets, S mers.	steak, Nail and To	ack Ham-	51	5. Brass Driv 5. Scree 6. Moulding J	e Hooks, l w Hooks, l	No. 35. Nos. 25	45		208
21	ré, Change list, Nos 18, 219, Nantucket Tack Claws, Shoe l 10, Bit Braces	40, \$1.50; 45, \$1.10 Drivers, Carpet St	retchers,	51	6. Picture an 7. Picture Kn	d Cup Hoo obs and H	oks			· · · · · · · •
22	Tack Claws, Shoe I	fammers	33	51 52	8-527, Bird Ca 8-534, Caster count Sheets	age Hooks.				20
99	. Hammer Saw Se	ets			Circular		2, 3 an	105	nd 81	pecial 3
22	no. 3 Saw Sets no. 4 and 5 Saw no. 5 Saw Rods	Sets		15	Nos 101 Set\$0.11 Nos	209	903	204	205	. 38 206
22	4. Screw Drivers 5, Cleavers and Bu 6, Box Scrapers	tter Triers		5	Set Nos Set	901 902 80.16 .17	.16 303 .20	304	305 324	.20 306 .26
22	6, Steel Faced Box 6, No. 1 Flat Steel I 6, Cold Chisels 7. Box and Cotton I	Chisels		ar.	Nos	\$0.32	402	403	404	405
22	 Geared and Rate 	net Drills		0	Nos Set Nos.	\$0.22 .33 	503 .23 702	504 -34 703	505 .26 704	506 -40 705
23	 Hand and Blacks Blacksmiths' Pir 	miths Drills ncers and Farrier	s' Ham-	5	Nos		. 700	707	708 .95	709 1.60
23	o, Blacksmiths But		4	5	Nos 1 Set\$0.10	2 3	4	.17	6	.28
23	4, Wagon Jacks and 5, Bench Screws and 6, 237, Quilt Fran	d Door Clamps		5	Nos 11 Set\$0.12	12 13 .14 .10	.18	15 .20 25	16 .24 26	.30
23	Clamps	Clamps	256	5	Nos 21 Set\$0.14 Nos 31 Set\$0.21	32 33	34	35	36	-31
238	Clamps Clarriage Makers's, Ice Picks Lee Ax and Pick		5	5	Nos 41 Set\$0.40	.26 .33 43 43 .50 .60	44	45	46 1.03	.80 47 1.39
240	o, Scratch Awls 2-243, Steelyards 4-246, Scale Beams 4, Change list, Balar	and Spring Balance	33% BS30	3	Nos	60.11	612	603 613	604	605
244	Change list, Balar 1.60	nces, No. 10, \$1.40;	No. 20,		Set Nos	621	622	623	624	625
250	Apple Parers		20	2	Nos Set Nos Set Nos Set	631	632	633	634	635
252	, Steel Traps	d Hand Bells	4083	3	Set	\$0.28	6.42	643	644	643
273	, Steel Traps 281. Door, Call and Change list of No Per doz 286, House Bells a	\$18.00 20,00 and Bell Cranks	28 50 20£10		Nos Set Nos	\$0.30 661	652 -31 662	653 .36 663	664	655
					Set Nos Set				.66 18	.6g
289	Flush Bolts, Nos. No. o Nos. Lagr. Cast Brass Fl	65, 065 lush Bolts	30	535	Truck or Bo	x Casters,	revise	d list.		40
292 294	, 201. Cast Brass F1 , 203. Mortise Front , Chain Door Faste , 206. , Chain Bolts	Door Bolts	30	6	Nos Per doz\$ Bed Keys	3.12 4.23	4 92 3	3.84 5	x6 9	,60
295 297 298	Chain Bolts		331/3	537	Ox Row Pin	astenings	* * * * *			33/3
300	Japanued Chain Bottom Bolts, cha	Bolts	No. 2005	539	Bull Rings	ers				25
301	Foot Bolts, Nos. 3	5, 36, 125, 126	331/3	541,	Ox Balls Plumb Bobs Hitching Rin Hog Scrape	read Nos.	2, 3, p	er doa	en	25
302	Spring Foot Bolts	5, 26	37½ 35&5	543-	Frumng one	OAT				35
304	Spring Foot Bolts Square Spring Bolts Bronze Metal Square Cased Bolt Spring	Nos. 22, 24, 32, 3 Nos. 022, 024	30	546,	545, Florat S Garden Trov 547, Garden Boot Jacks.	vels Forks and	Floral	Tools		331/3
306.	Spring "	Nos. 14, 16	33 1/3	549	Boot Jacks.	Nos. 6 and	xco			20
307	Jap'd Square Spring Brass	Bolts	.33 13 d2 5	549.	Foot Scrape	rs				25
io,	Dronze metar barr	CI DOIVS	50	2200	Nut Cracker Grindstone F	ixtures				20
ıı,	Nos	, 3 in. 160 E1.00	180		Change list, 1 Per doz 553, Grindst	Nos Su	1.00	8 50	6.0	10
12,	Nos	rrel Bolts	25	552. N						
16,	Brass Ship and Cu	pboard Bolts	40	EVE	Nos 15 \$6.50 Kitchen Grin	7 50	8.50	10.00	33.0	16%
18-	-323, Cuppoard Bolt 329, Bronzed Cupb	s, Latches and Cat-	ches15	554s 554s	Well Wheels	New Patter	n		3	3/365
-	Chunhaand Clatchan			555,	Kitchen Grin Weil Wheels Strap and T 557, Hook an 550, Wrought di Blind Butt Hinges and (Gate Latche N, Y, and N, 565, Gate Hook 565, Gate Door H	d Plate His Butts, Bac	nges	s, Tab	le Hin	3/3&5
32, 33, 34	and Sho 335, Brass Flush Co 339, French Window	ow Case Catches	35	561.	d Blind Butt Hinges and C	Jate Latch	103		5	00120 00120
36-	339, French Windo	W Catches Nos. 2151	, 115%.20	563,	N. Y. and N.	E. Gate H	inges.			30
10, 11-	343, Cupboard Turn Closet Catches	Nos. 307 1	31225	566. 568.	567, New Eng Barn Door H	gland Gate	Hinge o. ro	8		33/3
15-	347. Screen Door Ca Door Buttons	tches	331/1	568,	Barn Door	torre	0. 30			40
19,	Nos.	10, 13, 90	20	569,	Sliding Door	ollers				40
10	Nor	23. 92- 30-	2216	570-		DREGACE.				a Stran
0,	Nos. : Nos. : Bash Fasteners	5. 31, 92, 30 15, 35	33/5	570, 570, 571,	571, " and E Nos. 3, 4, Bar	Barn Door Re	Rail		4	40
0,	Nos. Nos. Sash Fasteners	32, 92, 30	33½ 35 40	570, 570, 571, 573, 573-	Nos. 3, 4, Bar Saddler's Pu 587, Flower P Japanned Sh	n Door Renchesot and Lanelf Bracke	np Bra	ckets	· · · · 4	40 po& 10 30
0, 0, 1, 2- 3- 4, 8,	Nos. : Nos. : Sash Fasteners	Nos. 307 1 18. Nos. 307 1 18. 12. 12. 12. 12. 12. 12. 12. 12. 12. 12	31½ 25 40 33½ 40 30 30	570, 570, 571, 573, 573- 588, 589- 593,	Riding Door 571, " and E Nos. 3, 4, Bar Sad Jier's Pu 387, Flower P Japanned Sh 591, Shelf Bra	n Door Renchesot and Larelf Bracke	np Bra	ckets	· · · · 4	

1	1		-		-	-		-
	360	o, Stubs o, 371, St o, 373, Sa	and l	lates.	Sash I	Afta		
21	37 ² 374	, 373, 58 , Shutte	sh Li	and	Lock	B		
20	375	-377.	**					*******
6	379	Boston Shutter Shutter Windo	61 2 45	No.	22 50 All	d ss		54
16	380 380	Boston Shutter	Shui Bar	ter Be	40, 4	08. 10,	15	
6			w Spi					
20	383	Change Window Saah Ce	List w Spr	No. 6	Wind	ckets. ow Sp	ring t	0 \$4.00
6	384,	Sash Co	enter	and	Irons.		• • • • • •	
90	385,	Sash Pra 386, Tru Axle Pr	ink a					
S.	387,	+1		Nos.	35, 40	45		
1/3	388-	Frame Dumb	Pulle	78				20
	392,	Brass 8 Change	orew	Pulley	rs, No	175		
	342.	Inches.	mer,	Sorew	. 2%		21/2	3
8 0	392,	Screw P	ulley	s, Nos.	\$0.80	85	.90	1.25
5	393,	Screw P Change Encased 394, Side 305, Yan	Scre	w Pull	leys.	n., Sr.	75	
0	394	305, Yar	d and	Cloth	es Li	ie Pu	lleys .	50
0 0	397: No	Hot Hot Change 0. 125, \$2.	list, A	wning	Pull	eys, N	0. 110	\$1,60
0	397,	Single T Double Shutter Encased Drawer	ackle	Pulle	ys			50
0	398,	Encased	Shea	rel Pul	leys			
0	400-4	c6, 44	i trans					400
	415	17. Card Flush Ri Drawer	Fran	Card I	rame	8		400
	418, 1	Flush Ri Drawer	ngs a Hand	nd Pe	ndant	Pulls		
	421, J	apanne	d					
1	422, I	Tush Ch	est H	landle	Chanc	re list	No. 2	\$ 33
	423,	425. Suri	tace (Chest	Japan	ned		\$3.25.
	426, 427, F	rench V	Vindo	w Shu	itter	Jap	anned es	1406
	427, E	lush Tr	ap De Knol	oor Ri	ngs			33
	436, 4	French V Flush Tr 35, Door 37, Escu	or Ha	ndles.	No.	er Bo	x Pla	33
	440-4	9 39		4.				
	446, 4 448, 4 450, 4	40.		60				33
1	452-4	56,		**	No.	5		33
1	457.	50, Japa larn Doo	nned	Store	Nos.	Hand	30	
1	co. E	arn Doc	r La	ches .	ange l	list. N	0. 28. 5	17.25
1	62, C	ottage	Thu	mb L	tches			
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1	69, B	apunned 55, Pittsl 57, Door 900r Pull arn Doo	r Pul	l, No.	3	d 2		33
14	71-48	3. Hat a	nd O	oat Ho	oks.			3
1.4	84-49	9.0	16	**	: ::			40&1
5	96-50	o, Ward 3, Schoo 5, Cloth	l Ho	use Ho	oks.		o Mont	3
5	60, \$	1.50	esa H	ooks.	ons, v	nang	e nat	
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5	12, C	eiling H	Cein	No. 60	oks .			33
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5	14, Ca	abin Doo	or Ho	Alea N				2
5		thes part	ve He	ooks, 1	O. 50. VO. 35			3
5	15. 16. Me	Scre	w Ho Hook	ooks, Pooks, No.	0. 50. Vo. 35. Vos. 25	45		2081
5	15, Me 16, Pi 16, Pi 17, Pi	Screending cture as	w Hook Hook ad Cu nobs	ooks, No.	0. 50. No. 35. Nos. 25 ks	45		20&1
5 5 5	15, Mo 16, Ph 16, Ph 17, Ph 18-527 18-534	Screening Screen	we He w Hook Hook ad Cu nobs age I rs as	ooks, No. 10 Hooks.	0, 50, Vo. 35, Vos. 25 ks ooks Revis	ed Li	st and	i Dispecial
5 5 5 5	15. 16. Me 16. Pi 17. Pi 18-527 18-534 cour Circu	abin Doorass Drives Screen Cture and Cture King, Bird Control Sheet ular	We He We Hook and Cumobs age I age I as	ooks, No. 1 p Hoe and H looks. 1 per	No. 35 Nos. 21 ks. ooks. Revis	ed Lind 4, 6		
5 5 5 5 5	Not Set	§0.11	103	ooks, No. in Hooks. I per os. 1, 14	No. 35. Nos. 25. ks. ooks Revise 2, 3 at	od Lind 4, 8	2.6 .80 205	107 .38 206
51 51 51	Not Set Not Set	B 101 \$6.71	102	ooks, No. 100ks, No. 1	No. 35. Nos. 21. ks. ooks Revisa, 3 at	ed Lind 4, 8	2.6 .80 205 .18	307 .38 206 .20 306
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51 51 51	Nos Set Nos Set Nos Set Nos Set	8 101	. 901 . 901 . 901 . 901 . 90. 16	100ks, 200ks, 20	No. 35. Nos. 25. ks. ooks Revise, 3 81 104 .16 203 .16 303 .20 402 .36	ed Lind 4, 8 105, 18 204, 17 304, 22 403, 504, 33	2.6 .80 205 .18 305 .24 404 .60 505 .26	107 .38 206 .20 306 .26 .26 .40 .53
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5: 5: 5: 5:	Nos Set Nos Set Nos Set Nos Set Nos Set Nos Set	B 101	. 102 . 13 . 301 . 80. 16	200 ks, No. 100 ks, 10	No. 35. Nos. 25. Nos. 25. Nos. 26. Nos.	od Lind 4, 8 105, 18 204, 17 304, 27 403, 54 703, 140 707, 75 5, 17	7.6 .80 205 .78 305 .24 404 .63 505 .704 .72 708 .95 6	107 .38 206 .20 .20 .20 .20 .40 .53 .40 .705 .90 .90 .709 1.60
51 51 51	Nos Set Nos Set. Nos Set. Nos Set. Nos Set. Nos Set.	1 80.10	201 . \$01 . \$0.16 . \$0.22	200 ks, 7 1, No. 1; 10 p Hoo 20 and Hooks, 1 per cos. 1, 12 20 20 17 401 202 17 402 17 403 17 404 17 405 17 407 17 407 17 408	NO. 35.7 NO. 35.7 NO. 35.7 NO. 35.7 NO. 20.7 NO. 20	ed Lind 4, 8 105 189 204 17 304 504 137 305 140 707 15 15 120 25	7.6 .80 205 .18 305 .24 404 .63 505 .26 .704 .72 708 .95 .6 .20 16 .20	107 .38 206 .26 .306 .405 .63 .65 .65 .90 .705 .90 .709 1.60 .28 17 .30 .27
51 51 51	Not Set Nos Set.	101 So.11 So.14 So.12 So.12 So.14 So.15 So.16 So.17 So.17 So.17 So.17 So.27	2 .11 .901 .90.16 .501 .501 .501 .11 .12 .14 .22 .16 .32 .26	ooks, 1 () () () () () () () () () (NO. 35. NO. 35. NO. 35. NO. 36. NO.	ed Lind 4, 8 204 -17 30, 22 40, 32 40, 34 70, 3 1,40 70, 7 1,7 1,7 1,7 1,7 1,7 1,7 1,7 1,7 1,7 1,	7.6 .80 205 .24 404 .63 .505 .704 .72 708 .95 .96 .20 16 .20	107 .38 206 .20 .20 .20 .40 .53 .56 .40 .705 .90 .709 11.60 .709 11.60 .709 11.70
55: 55: 55: 55:	Not Set Nos Set.	101 So.11 So.14 So.12 So.12 So.14 So.15 So.16 So.17 So.17 So.17 So.17 So.27	2 .11 .901 .90.16 .501 .501 .501 .11 .12 .14 .22 .16 .32 .26	ooks, 1 (1) (1) (1) (1) (1) (1) (1) (1) (1) (NO. 35. NO. 35. NO. 35. NO. 36. NO.	ed Lind and 4, 8 105, 18 204, 17 30, 4, 22 30, 4, 23 1, 40 702, 75 5, 17 15 120 20, 4, 24 1, 25 1, 20 1, 20	7.6 .80 205 .74 404 .63 505 .77 708 .95 6 .20 .24 .26 .24 .26 .24 .26 .24 .26 .24 .26 .26 .26 .26 .26 .26 .26 .26 .26 .26	107 .38 206 .20 306 .20 306 .20 306 .20 .53 546 .40 705 .90 709 1.60 7.28 17 .30 27 .31 .30 .27 .31
55: 55: 55: 55:	Not set Nos Set. Nos	8 101 \$0.11 \$0.12 \$0.12 \$0.12 \$0.14 \$0.21 \$0.21 \$0.21	2 .11 12 .16 32 .26 43 .50	Ooks, 1, 100 ooks, 1, No. 1, N	NO. 35. NOB. 21. NOB.	ed Lin 105, 188 204 403, 189 204 403, 149 504 403, 149 709 709 709 709 709 709 709 709 709 70	7.6 .80 305 .24 404 .63 505 .26 .704 .72 708 .95 6 .20 .20 .20 .20 .20 .20 .20 .20 .20 .20	107 .305 .206 .206 .206 .206 .205 .505 .506 .406 .705 .90 .90 .705 .90 .705 .709 .709 .709 .709 .709 .709 .709 .709
5: 5: 5: 5:	Not set Nos set. Nos	1	201 .901 .90.16 .501 .501 .11 .12 .14 .22 .26 .32 .25	00ks, 1 (1) (1) (1) (1) (1) (1) (1) (1) (1) (NO. 35. NO. 35. NO. 35. NO. 36. NO.	ed Lind 4, 6 105, 188 204 4, 17 30, 4 22 403 703 1,40 707 75 1,50 25 25 26 45 35 45 45 45 45 45 46 46 46 46 46 46 46 46 46 46 46 46 46	2.6 .80 .18 .905 .24 .60 .26 .708 .905 .905 .905 .905 .905 .905 .905 .905	307 306 306 306 405 506 405 506 40 705 90 709 1.60 7.30 27 .31 37 .80 47 80 47 80 80 80 80 80 80 80 80 80 80 80 80 80
51 51 51	Not set Nos Set. Set. Set. Set. Set. Set. Set. Set.	8 101 	2 2 11 12 22 14 42 15 0	Ooks, 1 (1) (1) (1) (1) (1) (1) (1) (1) (1) (YO. 35. YOUR	ed Lind 4, 6 105 105 105 105 105 105 105 105 105 105	7.6 .80 .205 .18 .305 .504 .404 .505 .704 .77 .708 .20 .20 .20 .20 .20 .20 .20 .20 .20 .20	107 .308 .206 .206 .206 .206 .206 .40. .206 .40. .206 .27 .310 .37 .39 .47 .39 .47 .39 .39 .39 .39 .39 .39 .39 .39
5: 5: 5: 5: 5: 5: 5: 5: 5: 5: 5: 5: 5: 5	NOS Set. NOS	1	202 .12 .901 .601 .601 .800 .22 .11 .12 .14 .22 .16 .32 .32 .44 .50	Ooks, 1 (1) (1) (1) (1) (1) (1) (1) (1) (1) (YO. 35. YOUR	ed Lind 4, 1 105, 109 204, 109 204, 109 204, 109 204, 109 204, 109 205, 100	7.6 .80 .20 .20 .20 .20 .20 .20 .20 .2	100 .306 .206 .206 .206 .206 .206 .405 .505 .405 .207
51 51 51	NOISELL NOSSELL NOSSEL	1	202 .19 .90.16 .90.16 .90.22 .11 .12 .12 .16 .16 .16 .16 .16 .16 .16 .16 .16 .16	OOLS, 1 DOKS, 1 DOKS, 1 DOKS, 1 DOKS, 1 DOKS, 1 DOKS, 1 DOKS 10 10 10 10 10 10 10 10 10 10	YO. 35. YOR STORM	ed Lind 4, 6, 18, 204 4, 17, 205 1, 400 1, 18, 204 403 1, 403 1, 400 1, 205 1, 400 1, 205 1, 400 1, 105 1,	7.6 .80 .205 .186 .305 .24 404 .65 .505 .708 .955 .6 .20 .20 .20 .20 .20 .20 .20 .20 .20 .20	100 .306 .306 .306 .405 .506 .405 .506 .407 .909 .106 .207 .217 .207 .218 .206 .206 .206 .207
555555555	Noset.	1	202 .19 .90.16 .90.16 .90.22 .11 .12 .12 .16 .16 .16 .16 .16 .16 .16 .16 .16 .16	OOLS, 1 DOKS, 1 DOKS, 1 DOKS, 1 DOKS, 1 DOKS, 1 DOKS, 1 DOKS 10 10 10 10 10 10 10 10 10 10	YO. 35-708. 21 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ed Lind 105, 18 204, 17 304, 204 -17 305, 307 -2	2.6 .80 .90 .186 .90 .24 .60 .50 .20 .20 .20 .20 .20 .20 .20 .20 .20 .2	109 306 306 306 507 508 508 508 508 508 508 508 508
	Noses set.	1	102 .13 .901 .90.16 .501 .90.22 .11 .12 .14 .22 .15 .15 .26 .42 .26 .50	Ooks, 1 Ooks, 5 Ooks, 7 Ooks, 7 Ook	YO. 35-708. 21 1-10 1-10 1-10 1-10 1-10 1-10 1-10 1	ed Lind 4, 8 40 105, 18 204 17, 18 204 17, 18 204 17, 18 205 1, 40	2.6 .80 .76 .72 .72 .70 .70 .60 .70 .70 .70 .70 .70 .70 .70 .70 .70 .7	109 .306 .306 .306 .306 .306 .306 .306 .306 .306 .306 .306 .307
	Noset. No	1	201 301 80,16 80,22 2 111 12 2 2 26 42 50 00x Ca	Ooks, 1 Doks, 1 Dok	NO. 35-708. 21 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ed Lind 4, 1 105 106 106 106 106 106 106 106 106 106 106	2.6 .80 .95 .24 .60 .72 .70 .80 .95 .70 .70 .95 .95 .95 .95 .90 .95 .95 .95 .95 .95 .95 .95 .95 .95 .95	109 .386 .206 .206 .206 .206 .207 .208 .207 .208 .207 .208 .207 .208
5.35	Noset. No	1	202 .13 . 301 .80.16 . 501 .80.22 . 11 .12 .23 .26 .42 .25 .26 .22 .26 .26 .22 .26 .26 .26 .26 .26	Ooks, 1 Doks, 1 Dok	YO. 35. YOS. 21 YOS. 21 YOS. 21 YOS. 21 YOS. 20 YOS. 2	ed Lind 105, 18 204, 17 30, 403 1403	2.6 .80 .90 .90 .90 .90 .90 .90 .90 .90 .90 .9	109 .306 .306 .306 .405 .506 .40 .506 .40 .705 .90 .90 .705
55353536	Not set Nos. Set Tru Nos. S	1	202 .13 .301 .80.16 .501 .80.22 .11 .12 .20 .42 .50 .50 .50 .50 .50 .50 .50 .50 .50 .50	Ooks, 1 Doks, 1 Dok	YO. 35-708. 21 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ed Lind 4, 2 and 1, 17 and 1, 18 and 1, 18 and 1, 18 and 1, 17 and 1, 18 and	2.6 .80 .80 .80 .80 .80 .80 .80 .80 .80 .80	109 .506 .706 .706 .707 .705
55353536	Not set Nos. Set Tru Nos. S	1	202 .13 .301 .80.16 .501 .80.22 .11 .12 .20 .42 .50 .50 .50 .50 .50 .50 .50 .50 .50 .50	Ooks, 1 Doks, 1 Dok	YO. 35-708. 21 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ed Lind 4, 2 and 1, 17 and 1, 18 and 1, 18 and 1, 18 and 1, 17 and 1, 18 and	2.6 .80 .80 .80 .80 .80 .80 .80 .80 .80 .80	109 .506 .706 .706 .707 .705
55353536	Not set Nos. Set Tru Nos. S	1	202 .13 .301 .80.16 .501 .80.22 .11 .12 .20 .42 .50 .50 .50 .50 .50 .50 .50 .50 .50 .50	Ooks, 1 Doks, 1 Dok	YO. 35-708. 21 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ed Lind 4, 2 and 1, 17 and 1, 18 and 1, 18 and 1, 18 and 1, 17 and 1, 18 and	2.6 .80 .80 .80 .80 .80 .80 .80 .80 .80 .80	109 .506 .706 .706 .707 .705
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55353536	Not set Nos. Set Tru Nos. Set .	1	202 .13 .301 .80.16 .501 .80.22 .11 .12 .20 .42 .50 .50 .80 .22 .50	Ooks, 1 Doks, 1 Dok	YO. 35-708. 21 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ed Lind 4, 2 and 1, 17 and 1, 18 and 1, 18 and 1, 18 and 1, 17 and 1, 18 and	2.6 .80 .80 .80 .80 .80 .80 .80 .80 .80 .80	109 .506 .706 .706 .707 .705
55353536	Not set Nos. Set Tru Nos. Set .	1	202 .13 .301 .80.16 .501 .80.22 .11 .12 .20 .42 .50 .50 .80 .22 .50	Ooks, 1 Doks, 1 Dok	YO. 35-708. 21 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ed Lind 4, 2 and 1, 17 and 1, 18 and 1, 18 and 1, 18 and 1, 17 and 1, 18 and	2.6 .80 .80 .80 .80 .80 .80 .80 .80 .80 .80	109 .506 .706 .706 .707 .705
55353536	Not Set Nos Se	s. loi sell liste liste liste liste ad F Bow Ping liste ad F Bow Ping liste liste ad F Bow Ping liste	202	00ks, 1 10ks, 5 10ks,	NO. 35- YOS. 21 YOS. 21 YOS. 21 YOS. 21 YOS. 21 YOS. 22 YOS. 25 YOS. 25 YOS. 25 YOS. 26 YOS. 26 YOS. 27 YOS. 2	ed Lind 4, 1 105, 16 204, 17 205, 18 207, 19 2	2.6 .80 .80 .95 .95 .44 .80 .80 .72 .72 .72 .73 .80 .95 .60 .60 .80 .80 .80 .80 .80 .80 .80 .80 .80 .8	109 109 100 100 100 100 100 100
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-35	592. Shelf Brackets, No. 7c
. 25	503-595. " "
.40	CARRIAGE HARDWARE.
. 50	
. 60	598, 509, Common Carriage and Tire Bolts
- 50	Bolts
.40 \$10	Bolte
.30	604, 605, Machine Bolts and Lag Screws 50
.40	606, Sleigh Shoe Bolts
. 25	607, Plow Bo ts
5	607. Felloe Plates
. 20	605, Iron Washers*
.35	oio, oii, Square and Hexagon Nuts*71/c. off*
-	612, Carriage Bands, Iron Rim and Bell 50 613-617, "Silver Plated 50 613-617, "Solid Oroide 50 613-617, "Finished Brass 50 613-627, Gold Plated 25
. 20	fra-fire " Solid Oroide
35	613-617. " Finished Brace
35	613-617, ' Finished Brass 50&5 613-647, ' Gold Plated 25
35	
50	and Pole Tips
55	and Pole Tips
35	628, Inside Coach Handles
OI	628, Apron Hooks and Rings50
10	628, Whip Sockets
35	630, Carriage Knobs
35	631, Couplings, King Bolts and Slat Irons 331/485
-	632, Axle and Spring Bar Clips5045
	633, Fifth Wheels
35	634-630, Curry Combs
50	641, Terrets, Hooks and Swivels
30	642, Harness Kings and Breeching Dees331/3
30	643, Harness Buckles 20 643, Cockeyes 50
-	
- 1	STATIONERS' HARDWARE,
5	646, Twine Boxes, Nos. o. i. io
15	NOS. 5, 6, 7
5	Damon Cilina Non
0	45, Paper Cups, Nos. 4, 5 and 0
0	547, 4 66 60 60 60 60 60 60 60 60 60 60 60 60
5 0	48. " " on and ron rota
5 6	40, " No. 1
0 6	49. " Nos. or. tor. 2, 03, 102
0 6	50. 651. Paper Weights
5 6	ra Paros Filo Nos a consend
	52, 1010, (15
5 0	
5 6	35:
3 6	53: ** ** ** ** ** ** ** ** ** ** ** ** **
0 6	57, Card Racks 40&10
0 6	56-603, Inkstands
5	
0	The second second
0	BRITISH IRON MARKET.

[Special Report by Cable to The Iron Age.] LONDON, Dec. 14, 1881.

Scotch Pig.-During the week prices have fluctuated in both directions, but the market is now steady, and there is a fair business doing. As compared with last week prices have advanced 6d. on Eglinton, 1/ on Coltness and 1/6 on both Gartsherrie and Glengarnock. The following are to-day's quotations :

Lighterage from Ardrossan to Glasgow is 2/ & 2/6 per ton.

Bessemer Pig.-The market continues active, and there is an increased demand, with advancing prices. Business during the week has been heavy. Lots equal portions Nos. 1, 2 and 3 are quoted 62/6-an advance of 1/6.

Manufactured Iron.-The demand is good, and prices are steady. We quote: Best Staffordshire Bars, £7. 10/.

Steel Rails.-The milts are sold up for two to three months shead, and orders for immediate delivery cannot be placed. Quotations for ordinary sections are £6. 5/ @

Iron Rails.—The market is fairly active, and prices are firmer. We quote Welsh Rails, £5. 10/ @ £6.

Old Rails,-Offerings are moderate, and sales fair. Old Tees are quoted firm, £4. 15/. c. i. f. United Scates ports.

Scrap.—Business has been rather lighter. Quotation of Wrought is £4. 7/6, c. i. f. United States ports.

Freights.-Steam freights from Glasgow to New York, 12/6.

IRON.

American Pig. - The tone of the market this week is strong, the inquiry unusually active for December, and sales have been large. Among sales reported are 4000 tons Thomas Nos. 1 and 2 X at \$26 and \$24 respectively. In other brands we hear of considerable business, but particulars are withheld. We quote the market firm at the following figures for prime brands at tidewater; Foundry No. 1 X, \$26; Foundry No. 2 X, \$24; Gray Forge, \$23.

Scotch Pig.-The stocks of Scotch Pig in this market have been considerably reduced. Eglinton is in very light sur there is no Carnbroe on the spot, and very little Glengarnock. Sales during the week; 200 tons Eglinton at \$23; 150 tons Gartsherrie from wharf at \$25; 550 tons Glengarnock on private terms, and in lots about 500 tons additional of various brands. We quote : Eglinton, \$23.50 ; Carnbroe to arrive, \$24.50; Glengarnock, \$24.50 @ \$25; Gartsherrie, \$25 @ \$26, and Coltness, \$26.50. The market closes firm, with a tendency to higher prices, consequent on advanced Glasgow quotations and the high prices of ocean freights.

Rails.-We learn of a sale of about 7000 tons Steel Rails and between 2000 and 3000 tens Iron Rails, both on private terms. We quote Steel at mill, 1882 delivery, \$60, and Iron \$48 @ \$50.

Old Rails.—There is not much activity to report with regard to Old Rails. About 5000 tons, part T's and Doubles, changed hands during the week at \$29 @ \$29.25 for T's and \$31 @ \$31.50 for D. H. We quote T's \$29 @ \$30, and D. H. \$31.50 @ \$32.
Scrap.—There is a fair demand for

Wrought Scrap, and sales of 500 tons to arrive at \$30.50, and 200 tons exiship at \$30, are reported. Yard Scrap continues in light supply, and prime selected is quoted \$32.50 per ton.

Hoopes & Merry, Nos. 539 to 547 West Fifteenth street, have in stock a joh lot, about 150 bundles, of Cold Rolled Iron, Nos. 20, 22 and 23, all 80 in. long, which they inform us will be sold cheap.

Copper.—Since our last report, between 300,000 and 480,000 pounds Lake Superior sold at 1914 @ 1914 Producers since then are not willing to name a price, being afraid, as they are, that they may be taken up. We quote at the close, for ready delivery, 1914 @ 1914, while there are no sellers of "futures." for which 1014 is offered in "futures," for which 19½¢ is offered in vain. Meanwhile, London persists in its upward course, Chili Bars being worth £69, and Best Selected, £76. "London, Nov. 26,—The past week has witnessed barely so much activity in this metal, buyers being less disposed to continue purchasing, conse-quently prices for Chili Bars have shown quently prices for Chili Bars have shown a somewhat retrogressive tendency. Considering the sharp rise which was effected last week, it is a matter of no surprise that a slight reaction should now take place, it being merely an event of ordinary occurrence, for the increased prices have enabled recent operators to turn their purchases over to good account, while, further than this, there are many holders who for a long time past have been only too anxious to rid themselves of their stocks as prices have advanced. Therefore, fluctuations such as have taken place this week need give no great cause for anxiety, but rather the great cause for auxiety, but rather the statistical position of the market should be looked to, in order to see whether prices have been advanced beyond what the pre vailing circumstances in connection vailing circumstances in connection with trade justify, and also to see what future prices are likely to be." Manufactures are unaltered. We quote: Bottoms, 31¢ @ 32¢; Braziers, 30¢ @ 30¢; Circles, 33¢ @ 30¢; Segment Sheets, 33¢; Fire-box ditto, 30¢; Sheathing, 28¢, and Bolt Copper, 30¢.

Tin.—Our market remains in a good position, and full prices are demanded whenever a hyper desires to get a respectable

ever a buyer desires to get a respectable quantity. Fereign markets continue to adquantity. Foreign markets continue to advance; London cables Straits £100, 10/ (£110, spot, and £111 (£111. 10/ "futures." Singapore cables \$33.50 per picul; there are at present 100 tons loading here for London, and more may follow. About 350 tens have changed hands here since our last, have changed hands here since our last, part spot and part "to arrive," at 23%% @ 25%%, and to-day the price of spot Straits is 24%%. There seems to be a good feeling in Tin in England and Holland as per latest mail and cable advices. So far this month we hear of no shipments from the Straits, and there having hear pose last month there is there having been none last month, there is no help for it, but seemingly quite a pinch will occur in January. The speculative will occur in January. The speculative holders thus have it all their own way at present, and will, from all appearances, have it in the near future. It is with them, as they are situated, merely a question of policy at what figure they shall deem it prudent to get out of a good speculation ere the inevitable reaction will manifest itself sooner or later, brought about by circum-stauces not now to be foreseen. We quote stauces not now to be foreseen. We quote at the close, Straits Tin. large lines, 241/4 Australian, 24¼ ¢ № 24¼¢, and Billiton, 24¢ @ 24¼¢, nominally. London, November 26.—There has been considerable excitement in this metal throughout the whole of the past week, but the movements of prices, although sharp and of a very fluctuating character, have terminated unfavorably to holders. After so much inflation as holders. After so much inflation as was witnessed in this metal last week, the present irregularity in prices is not more than could have reasonably been expected, and it has yet to be seen which of the two—the 'bull' or the 'bear' operators—will finally be successful and get the better of the market. Apparently the 'bulls' have in their favor satisfactory statistics, while the 'bears' are encouraged to press sales by the high prices ruling, which have this by the high prices ruling, which have this week ruled higher than what they have been for many years past." As per Messrs. Gilfillan, Wood & Co.'s report by mail, Singapore, October 29, the shipments of Tin from the Straits settlements to the United States during the first nine mouths have

been:	
Piculs. Tons	
1881	3
28an 29 2an 13 11 4 mov	4
2877	3
Tin Plates As foreshadowed in our last,	
both Charcoal Tins and Ternes have)
attracted attention from their relative	
cheapness, and have advanced materially,	ı
with a fair amount of business passing. We	ı
quote to-day large lots, ordinary brands, per	٠
box: Charcoal Bright, \$6.371/2 @ \$6.621/2;	
ditto Ternes, \$5.62 1/2 @ \$5.87 1/2; Coke Tin,	
\$5.75, and ditto Ternes, \$5.25 @ \$5.371/2,	-
The fact is that stocks are very much	1
reduced at this center, and this is quite as	
much the case in England in the face of	d
mills working at their full capacity. Thus,	1
at Liverpool stocks have decreased during	. 1
at Liverpool stocks have decreased during	1
the month some 200,000 boxes. While this	
is the case it has not been an easy matter	
to get Plates from Europe with reasonable	
dispatch. The Atlantic has been exception-	
ally boisterous; delays have been beyond	
the control of man and steam, and the high	
freights obtained sufficiently show what a	1
pressure there is to get goods across the	1
ocean. To all these fortuitous circum-	1
stances there is added a very brisk jobbing	1
demand here, stimulated by a remarkably	1
mild winter, so far. Everything, therefore,	١
mild winter, so far. Everything, therefore, seems to concur to impart buoyancy to a	ı
situation intrinsically sound, and not lack-	ı
ing in good promise to the importer and	1
dealer. "London, November 26 Rather	1
stronger prices are being quoted, and the	1
demand, perhaps, to some slight extent may	ļ
have increased, but no material improve-	ı
ment is visible. The stiffening tendency of	1
prices is probably due more to the enhanced	1
value of tin, combined also with the extra	1
firmness in the price of iron, than to any	
other cause." Liverpool cables: "Excited;	1
Coke, 18/6 and Charcoal 20/@ 22/."	1
Coke, 10/0 and Charoont 20/ @ 22/."	П

Lead.-Common Domestic on the spot i still very scarce, and as the local de remains good and steady, small lots have sold all along at rather extravagant and irregular figures, not precisely affording a criterion for the general situation of the metal, the prices paid for these trifling par cels ranging between \$5.20 and \$5.30, while select Missouri, \$6.0. corroding Lead, could, at 20\$ freight, be laid down here at \$5.15. quote Common Domestic, for the mo-nt, 514, nominally. "London, Nov. ment, 54¢, nominally. "London, Nov. 26.—There is no change whatever to record in the state of this market, the demand keeping rather quiet and prices steady at last week's quotations. There has been no change in manufacturers' prices. We quote: Pipe, 7½¢; Sheet, 8¢; Tin-lined Pipe, 15¢, and Block, 35¢; all less 10 % cent. to the trade.

Spelter and Zinc.-The famished state of the market heretofore described has met with no relief through more liberal supplies. Common Domestic has, therefore, fetched of with ease, and at this figure it may be pronounced cheap, for to import Silesian would cost about as much. The latest quotation by mail from London is £13. 10/ for S. S., ex ship, which figure was paid on November 29 there. Adding a freight thereto of 15/ it would have cost 5%¢ to import it here per steamer. The tendency in Europe is still decidedly upward. "London, November 26.—Large transactions have taken place on the Continent, and the demand here has also improved at advancing prices. We quote ordinary brands at £17. 15/ @ £17. 17/6, and specials at £18 @ £18. 5/. Sheet Zinc.—The demand continu-£18. 5/. Sheet Zinc.—Inductional ing brisk, and supplies not yet fully coming up to it, the price of 814 @ 814 is upheld. The mills in this country have meanwhile advanced the price 15¢ per 100 pounds

Antimony.-There is no abatement in the consumptive demand, which remains rather strikingly active at 141/4 @ 141/2 for Cookson, and 13# for American.

COAL.

The pressure for the immediate filling of old orders being partially relieved, opera-tors and dealers feel in a more easy condi-tion. Otherwise there has been no special tion. Otherwise there has been no special change in the market within the past week. It is noticed that dealers are laying in larger supplies than one year ago, when they ran short, almost without exception. They do not intend to get caught again. Should severe weather set in, the effect would be to shorten production and stimulate deanand. If not, prices must weaken. Even now, they are hardly as firm, but nothing is said of a decline. Free-burning Coals are \$3.90 for Lump, Egg and Chestnut; Stove, \$4.20; Lehigh, \$4.25 for Grate, Egg and Stove; Chestnut, \$3.90 @ \$4. The domestic sizes are still in scant supply.

In the Bituminous trade, orders upon the

In the Bituminous trade, orders upon the producers from the regular dealers are urgent, there being much anxiety to complete shipments before freezing weather. There is a great scarcity of cars on the Pensylvania Railroad; on the Baltimore and Ohio they are more plenty. Shipments by canal to Georgetown have ceased. Prices canal to Georgetown have ceased. Frees are \$3.50 at Baltimore; \$5.25 alongside in New York. Freights to Boston are \$1.75 @ \$1.90, according to size of vessel, and vessels this side of the Cape are plenty.
Statistics of the Anthracite Coal trade for

the year show that the production will reach 25,500,000 tons, or about 4,500,000 tons in excess of the previous year, and the outlook for 1882 is considered very cheering. Little or no surplus on the market is anticipated. The total amount of Bituminous mined for the year is 4,609,583 tons, against 4,007,798 tons for the corresponding period

The Pottsville Miners' Journal says: The year has been one of the most remarkable in the history of the trade, from the fact that an extraordinary production has been ac-companied by remunerative prices, and that operators have forborne to take advantage of conditions that would have secured them for several months past an advance of at least 25 cents a ton. The change of policy in many other respects has been radically different from that which controlled past operations, and its effect has not only been wholesome in the present, but will exert a beneficial effect upon the future of the trade

FOREIGN TRADE MOVEMENTS.

The following is a summary of foreign trade movements for the past week : IMPORTS.

For the week ended December 10: Since Jan. 1... \$313,893,304 \$450,545,777 \$413.465,349

merchandise valued as follows:

Included in the imports were articles of

U			Qu	untity.	Value
	Anvils	*********	******	249	\$1,48
4	Brass goods			21	3,38
1	Bronzes			36	12,76
	Chains and anchor	19		29	60
1	Clocks	********		80	13,48
١	Copper				98
1	Cutlery			74	23.05
1	Pins			3	36
1	Gas fixtures		*****	E	63
ı	Guns			80	15,17
1	Hardware		******	8	1,91
1	Iron, pig, tons			3,350	51,01
1	Iron, sheet, tons			266	14.46
1	Iron ore, tons	********		2,905	€,38
1	Iron, other, tons			494	11,44
1	Machinery			49	4,35
i	Metal goods			500	13,37
ł	Nails			8	190
1	Needles			7	2,40
1	Nickel,			10	1,500
ŧ	Old metal				2,120
ł	Platina			3	5,640
ł	Platedware			3	79
1	Saddlery			7	1,224
ı	Steel			3.747	68,021
I	Spelter, lbs		31	0,481	3,868
1	Silverware			6	308
1	Tin, boxes			2,658	54.361
1	Tin, 1,426 slabs, 167	.452 lbs			37,993
I	Wire			737	5,514
I	Zinc, lbs		16	5,125	6,582
l	The following	are the	impor	ts of	leading
l	articles, compare				05:
I		For the			Same
I	-	week.	of 18		me 2680.
	Cutlery, pkgs	74		124	8,074
l	Hardware, pkgs	. 8	9	226	1,182
I	Iron, R. R., bers		340.0	142	578,875

ROB, R. R., OPES.	349,042	570,875	Alwin Monard & Co.
Lead, pigs	0,396		Pig, tons, 300
Steel, pkgs	9,747 1,109,763	567,895	Leacraft & Co.
Tin boxes	12,658 1,493,201	1,587,221	Old iron, tons, 60
Tin clobe the	65,030		Lee Jas. & Co.
110 8009, 108	167,453 10,685,224	24,779,391	
EXPORTS.	EXCLUSIVE OF SPECI	E.	Pig, tons, 900
			Lundberg G.
For the week e	nded December	6:	Bundles, 400
			Bars, 7654
	1879. 1880,	1881.	Bar ends, bxs., 1150
Iotal \$6	0,020,599 \$7,878,042	\$7,100,000	BEALD OF COLUMN
Prev. reported 216	5,699,289 370,373,197	343,850,247	Millicin & Smith
			Wire rods, bdls., 131
-		-	11 110 1000, 0010., 23
Since Jan. r \$222	710.888 \$284.251.220	\$150.052.222	Mason John W. & Co.
	,719.888 \$384.251,239	\$350,952,337	Mason John W. & Co.
	0,719,888 \$384.251,239 ORTS OF SPECIE.	\$350,952,337	Mason John W. & Co. Wire rope, cks, 4
EXP	ORTH OF SPECIE		Mason John W. & Co. Wire rope, cks, 4 Morton, Bliss & Co.
EXP			Magon John W. & Co. Wire rope, cks, 4 Morton, Bliss & Co. Rails, 1208
For the week e	nded December	0:	Mason John W. & Co. Wire rope, cks, 4 Morton, Bliss & Co. Rails, 1208 Ogden & Wallace
For the week e	nded December	0:	Mason John W. & Co. Wire rope, cks, 4 Morton, Bliss & Co. Rails, 1208 Ogden & Wallace Sheet iron, bdls., 56
For the week e	ORTH OF SPECIE	0:	Magon John W. & Co. Wire rope, cks, 4 Morton, Bliss & Co. Rails, 1208 Ogden & Wallace Sheet iron, bdls., 36 Parker A. P.
For the week e	nded December	0: . \$153,560 10,470,489	Mason John W. & Co. Wire rope, cks, 4 Morton, Bliss & Co. Rails, 1208 Ogden & Wallace Sheet iron, bdls., 56 Parker A. P. Sheet iron, bds., 40
For the week e	nded December	\$153,560 10,470,489 \$10,624,040	Mason John W. & Co. Wire rope, cks, 4. Morton, Bliss & Co. Rails, 1205 Ogden & Wallace Sheet iron, bdls., 56 Parker A. P. Sheet iron, lots, 429 Pleyson & Co.
For the week e	nded December	\$153,560 10,470,489 \$10,624,040	Mason John W. & Co. Wire rope, cks, 4. Morton, Bliss & Co. Rails, 1205 Ogden & Wallace Sheet iron, bdls., 56 Parker A. P. Sheet iron, lots, 429 Pleyson & Co.

Same time in 1875	14,110,33	6	9			v					9	6		0	۵		0	1879.	in	time	Same
Same time in 1876	12, 118,00																	1873	in	time	Same
Same time in 1875	24,784,26			0		91	0	0					٥.					1877	in	time	Same
Same time in 1875	43,331,07					į.						 0						1876.	ın	time	Same
Same time in 1874	70,185,75					J								. ,				1875.	in	time	Same
	57-253-74								0									1874	in	time	Same
Same time in 1873	47,740,04				ě.											6.1		1873	in	time	Same
	69,070,05																	1872.	in	time	Same

IMPORTS

Of Hardware, Iron, Steel and Metals int. the Port of New York, for the Week ending Dec. 14, 1881 :

Bardware.

Phelps, Dodge & Co.
Fig. tons, 190
Taylor & Co.
Raiis, 1537
Turner Wayland
Wire, Cs., 2
Tillotson L. G. & Co.
Wire, lots, 386
Whitney A. R. & Co.
Hoop iron, bdls, 6
Bars, T iron, 24
Bars, 905 Aspinwall T. & Sons Aspinwall T. & Sons Case, 1 Casks, 2 Alexandre F. & Sons Ice machine, 1 Boker, Hermann Hardware, cutlery & guns, pgs., 62
Barbecker, Julius & Co.
Cases, 77 Cases, 77
Barbour Bros.
Mach'y, cs., 16
Baldwin Bros. & Co.
Cases, 6 Bars. 905 Williamson Jas. & Co. Pig, tons, 800 Wilcox E. B. Wicox E. B. Wire, cask, 1 Wood & Leggatt Beams, 56

Cases, 8
Curley J. & Bros.
Cases, 5
Cutlery, cs., 5
Curley J. & Bros.
Cutlery, cs., 5
Curley A. & Bros.
Cutlery, cs., 5
Curley A. & Bros. Order, Pig iron, tons, 770 Old fishplates, kilos Castings, cs., 704 Spiegeleisen, tons Curley J. & Bros.
Cutlery, cs., 5
Degraw, Aymar & Co.
Chains, 6
Chain, cks., 5
Davies & Co.
Cases, 4
Dingelstedt & Co.
Mach'y, cs., 25
Mach'y, pkgs., 5
Duval H. R.
Cases, 6 350¾ Cases, 36 Casks, 16 Scrap, tons, Old scrap, Scrap, tons, 300 Old scrap, kil-198,802 Sheet, 28., 6 Sheet iron, bdls, Bundles, 212 Bars, 2026 kilos.

Burs, 7026 Bars, 7 iron, 3750 Ore, kilos., 230,250 Ore, tons, 1123 Crank-pin forgings Eggers C. H. Cases, 17 Balls, 4 Ehrman Mr. Case, 2 Field Alfred & Co. 24 Tire forgings, 92 Rivets, cs., 19 Old rails, pcs., 2020 Hoop iron, bdis., 2936 Plates, 10

Packages, 25 Chains, cks., 2 Chain, length, Cases, 14 Casks, 5 Plates, 20 Angle, bars, 28 Oxide, bdls., 33 Anvils, 239 Folsom H. & D. Steel. Abbott Jere. & Co.

Arms, cs., 9
Graff Cutlery Co.
Cutlery, cs., 5
Hayward, Perry &
Francklyn
Chocolate Mach'y, Cases, 31 Blake Bros. & Co. Blake Bros. & Co.
Blooms, 1041
Bundles, 167
Brown Bros. & Co.
Wire, bdis., 949
Carey & Meen
Wire rods, bdis., 271
Rods, bdis., 379
Chicago Spring Co.
Bundles, 50
Coltins H. E.
Blooms, tons., 30
Colon M. CS., 14 Howard Bros, & Read Cask, 1 Hildick A. H. Chains, cs., 19 Chains, cs., 19
Cases, 4
Illfelder B, & Co.
Case, 1
Kreischer B,
Mach'y, pkgs., 3
Loewenstein & Kayser
Mach'y, caso, 1
Luddon M. C.
Nails, case

Cohen M. Case, 1 Casks, 2 Drexel, Morgan & Co. Blooms, 878 Knoblauch & Lichten-Nails, case, a Meyer H. A., Jr. Packages, 223 Meyer Geo. & Co. stein Blooms, 956 Printing press, cs., 1. Print'g press, pgs., rchant's Dispatch Co Landberg G. Scrap, bxa., 1920 Me

Blow adberg G. Scrap, bxs., coss F. W. Bundles, 116 Bars, 32 Case, 1 Naylor & Co. Rails, 674 Outrioh & Co. Bundles, ders Broy ms, Arint's press,
Mcrchant's Dispat
Cask, r
Cases, 8
McCoy & Sanders
Cask, r
Cases, 14
Crows, s
Levers, bdl., r
Axles, 25
Mount J. T.
Puckages, 4
Moore's Sons, J.P.
Guns, cs., 15
Moss F. W.
Files, cks., 7

Bundles, 40
Sanders Bros.
Blooms, 2897
Temple & Lockwood
Bars, 47
Cases, 25
Bundles, 123
Packages, 11
Order, Moss Fil Files, cks., 7
Naylor & Co.
Mach'y pgs., 11
Oxers T.
Sauss Order, Blooms, 4213

Biooms, 4213 Buntiles, 1091 Wire, bdis., 1423 Casks, 9 Cases, 13 Scrap, tons, 500 Scrap, loads, 23 Rods, bdis., 441 Bands, 125 Packages, 7 Rails, 942 isage mach'y, es. Sanford Stephen & Co.
Mach'y, CR., 42
Schoverling, Daly &
Gales,
Mase., Cs., 10
Siebold H. & Co.
Machines, pgs., 6

Machines, pgs., 6 Steinhardt A. & Bros. Steinhardt A. & Case, 1
Thornton John & Co.
Ironware, cke, 2
Vom Cleff & Co.
Ironware, cs., 9 Metals. Ashley Morris
Zinc, cks., 700
Baring Bros. & Co.
Tin, slabs, 608
Tin plates, bxs.,
Batzer & Lichtense Vom Cleff & Co. Ironware, cs., Mdse., cs., 5 Wannamaker, J. Stoves, cs., 3 Witte, John G. & Bros

Batzer & Lichtenstein
Spelter, plates, 9924
Brown Bres, & Co.
Tin slabs, 470
Cadenas & Coe.
Old copper, case, 1
Conover, J. S. & Co.
Zinc, pgs., 5
Cort, N. L. & Co.
Tin plates, bxs., 400
Coddington, T. B. & Co.
Cin plates, bxs., 74
Dickerson, VanDusen &
Co.
Antimony, cks, 25 Arms, es., 24 Mdse., cs., 15 itemore, Jas.D.&Co. Whi Whitemore, Jas. D.&Co.
Case, 1
Wiebusch, Hilger & Co.
Cases, 21
Ironware, cks., 23
Iron chains, cks., 24
Cutiery and hardware, pgs., 52
Woodruff & Co.
Mach'y, case, 1

Mach'y, case, r Winchester Arms Co. Case, r CO.
Antimony, cks, 25
Tin plts., bxs., 5430
Drezel, Morgan & Co.
Old metal, pkgs., 18
Hendricks Bros. er, Screws, cks., 6 Screws, cks., 5 Screws, cs., 19 Nails, kgs., 23 Fancy nails, case, 1 Chain, cask., 1 Cutlery, cask., 1 Old tuyeres, 223 Anvils, 8 Antimony, cks., 34
Hays, A. M. & Co.
Zinc., pgs., 7
Isaacs, Vought & Co.
Platina, pkg., 1
Kay David ronware. cs., 10 Bress castors, os Arms, es., 9 Files, eks., 29 Casks, 2 Cases, 20

Kay David
Brass castors, cs., 2
Katz Bros.
Tin slabs, 1242
Leacraft & Co.
Old metal, oks., 2
Old metal, bdls, 3
Lamarche H. & Sons
Zinc, cks., 140
Moore's Sons J. P.
Gun caps, cs., 1
Meyers Josiah V. & Sons
Zinc oxide, aks., 47
Meyer G. A. & E.
Zinc oxide, bbls., 200
Phelps, Dodge & Co.
Tin, bxs., 1955
Tin plates, 9-26
Tin plates, 9-26
Tin plates, case, 1
Powell W. F.
Old copper, box, 1
Semon, Bache & Co.
Tin, cs., 13
Semon, Bache & Co.
Tin, cs., 13
Semon, Bache & Co. Iron. Anglo-American Co. Roofing, cs., 439 Baring Bros. & Co. Iron, tons, 240 Iron, tons, 249 Rods, pgs., 5065 Rars, 2268 Bowring & Archibald Bowring & Archibald
Scrap fron, tons, 125 %
Carey & Moen
Wire, bdls., 1035
Copland & McLaren
Tubes, 250
coddington T. B. & Co.
Sheet iron, bdls., 183
Drexel, Morgan & Co.
Ore, tons, 165
Dickerson, Van Dusen
& Co.
Sheet iron, bdls., 175 Sheet iron, bdls., 175 Field C. de P. Tin, cs., 14 Struller, Law & Co. Pig. tons, 100
Irwin Richard & Co.
Pig. tons, 300
Leacraft & Co.
Old Iron, tons, 60
Lee Jas. & Co. Copper caps, cs., 11 Thompson A. A. & Co. Tin plates, bxs., 163 Whittaker Thos. Stereotype plates, bxs., 4 Order,
Tin plates, 10,279
Tin, bxs., 1919
Tin, cs., 8
Spelter, ingots, 5
Spelter, ingots, 2 Spelter, plates, 2570 Quicksilver, bottles Quicksilver, pgs., 12 Quicksilver, pgs., 12 Old brass, case, 1 Tin slabs, 7211 Antimony, cs., 132 Old zinc, bdls., 101 Old brass tubes, 330 Lead, pcs., 384

EXPORTS

Of Hardware, Iron, Machinery, Metals &c., from the Part of New York, for the

Week ending Dec. 6, 1881: Tuborg. Porto Rico. Quan. Quan, Val. Ptlm., gls., 260,663 \$20,848 Hdw., cs. 6
I. r. gds, cs. . 2
Nalls, kegs. . 234
Mach'y, case. . 2
Mf. iron, pkgs 274
Ptlm., gals. . 21,072
Pumps, case. . 3 Copenhagen. Ptlm., gals. 221, 222 18,50 Dutch West Indies Ptim., gals...8725 Hdw., cs..... i Shoe nails, cs. 6 935 Oporto. Dutch East Indies. Clocks, bxs. . . so Ptlm., gals.707,280 82,384 Trieste. Bremen. Ptm.,gls.1,283,725 101,62 Ouba.

Hambury.

Ptim., gals. 205,654
Mf. iron, pkgs 20 1,619
Clocks, bxs... 34 847
Ag. imp., pkgs 63 861
Revolvers, cs... 3 1,923
Mach'y, cs... 47 6,466
Hdw., pkgs... 30 950
Arms, case... 2 92 Hamburg. Scales, pkgs. 30 Windmill, oz. 8 Ptlm., gals.257,731 950 92 304 r, gds.,pkgs Rotterdam.

Hdw., cs.... 25 Tvn., slabs... 3604 Mach'y, case... 1 Mf. iron, pkgs 6 Ag. imp., pkge 3 Sharpness Ptlm., gals. 329,751 26,37 Liverpool. Metal g'da, es .. a

nattar gron, es...
Ptim., gaix, 420,
Ag. imp., pkgs
Hdw., cs...
Springs, case.
Brass grots, css
Ht. iron, pkgs
Clocks, bxs...
I. r. goods, cs.
I. r. goods, cs.
Ore, bxs...
Sew. ma., cs...
Guns, case.

33 Guns, case... 1 50 Nails, bxs... 400 1,500 Brass, pkgs.. 193 13,037 Great Yarmouth. Ptlm., gals, 100,000 10,00 London.

Hdw., es..... 138 5.048 Tin, slabs...1,269 246,032 Sabers, cs.... 2 388 Plumbago,bbis.200 5,781

Hull. Mach'y, cs.... Clocks, bxs... Pumps, pkgs. Copper, cs... 35 Glasgow.

1,029 Cork Ptim., gals, 129,951 0,70 Queenstown.

Ptim., gals. 134,844 10,78 Gibraltar. Ptlm., gals., 15,000 Dunkirk. Ptlm., gals.249,696 18,721 Canada.

Copper, cks.. 13 British North Amer-Nails, pkgs... Mf. iron, pkgs Hdw., cs.... British West

Ptim.. gals.. 38,009 Nails, kegs... 13 Mf. iron. pkgs 37 Hdw., pkgs... 25 I. hooks, bdis. 3 Nails, bxs... 30 British Guiana. Ptlm., gala., 15,000 2,03 British Australia Hdw., pkgs... 352 11.554 Nails, case... 1 20

Nails, case.... Cutlery, cs... Wringers, cs. Ag. imp., pgs. Pumpe, pkgs. 3 13a Mr. iron, pkgs. 30 817 Tacks, 65. 18 197 Nails, kegs. 197 385 Ptim., gaiz, 95,000 315,998 Clocks, bxs. 166 2,720 Sew. ma., cs. 440 13,613 Springs, case. 2 75 Mach y, cs. 9 559 British Possessions in Africa.

Hdw., pkgs... 211 Mf. iron, pkgs 43 Nails, kegs... 40 S. rollers, cs... 2 Ptlm., gals...25,500 2,537 549 154 57 3,825 Ag. imp., pkgs 307 Clocks, cs. . . . 9 Pumps, pkgs. 30 Wash. ma., cs. 6 302 68 Now Zealand.

Mfiron, pkgs. 672 6,538
Pumps, pkgs. 16 965
Ag. imp.,pkgs. 12 905
Ag. imp.,pkgs. 12 905
Ag. imp.,pkgs. 12 1,649
Wringers, us. 6 144
Wringers, us. 6 144
Pyrlm., gsals, 8,480 12,020
Cuttery, cs. 12 896
Clocks, bxs. 74 1,056
Lr. goods, cs. 2 19,021
Mach'y, cs. 2 800 Cadiz. Hdw., cs..... 6 Saw..... Mf. iron, pkgs. 3 Havre. Ptlm., gals. 585,842 41,516 Marsellles. Ptlm., gals. 309, 152 29,038 Barcelona.

Hdw., cs..... 6 Heat. ap., pgs 3

8, 350

Malaga.

pe, pkge. 4 Hdw., case ... Ptim., gals. .70,000

Vak \$355 507 507 35

Ptim., gals. 741, 198 63,72 Hdw. pkgs...
Mach'y, pkgs...
kron, pkgs...
Cutlery, cs...
Br. goods, cs...
Belkows, bdls.
Tin, bxs...
Scales, pkgs... 3,700 9,129 583 995 950 81

2,900 189 3,989 384 257 2,050 200 90 400 Sew. ma., ca. Iron safe.... Tanks

Urugu Ptlm, gals..60, Clocks, pkgs... Rifles, cs.... United States of lombia.

Sew. ma., cs. 186 Mf. iron, pkgs 246 Mach., cs. 415 Hdw., pkgs 249 Ptlm., gals 249 Ptlm., gals 313 R. r. bars 30 Mf. couper cs. 50 R. r. bare... 93
Mt. copper, es 7
Ag. imp., pkgs 793
Boll ... 1
Clocks, bxs 21
Iron, pkgs 221
Iron, pkgs 37
Gas flaxtra, pgs 1
Gavolvers, es 8
Arus, es 8
Arus, es 8
Brassg fda, es 6
Naila, es 16 31293 92 790 400

Africa. Ptim., gali..21,270 Nails, kegs... 222 Brsa kettles, cks 11 Mf. iron, pkgs 273 Guns, cs. Mach'y, pkge. Clocks, cs. Hdw., pkgs. Sew. ma, cse.

Hayts. iron, pkgs... 300 ?tim.. gis... 31,150 Shot, bxs.... 3 Mexico

Rog. Insts. cs, Ptim., gals. 27, Naiis, bxs. Revolvers, cs. Naila, kegs. Tinfoli, cs. Valves, bxs. Cartridges, cs. Pistols, case Wire goods, cs. 220 Pumps, pkgs. Sew. ma., cs. Cutlery, cs. S. nails, cs. Hdw., cs.

Constantinople. Ptim.,gals.329,000 36.930 Pozzueli. Ptlm.,gals. 174,347 Feneruela.

Sew. ma., ca. 74 Cartridges, ca 8 L r. goods, ca. Qeksilver, fiks Nails, kogs... Pilm, gals...q Hdw., pkgs... Mf. iron, pkgs. Revolvers, cs. Cutlery, cs... Mach'y, cs...

Brazil.

Cartridges, cs. a Cattery, es. 33 Iron safe. 13 Iron safe. 16 Nails, kegs. 160 Pumps, ligs. 9 Mf. iron, pkgs. 33 R. r. cars. 5 Ptlm, gals. 22,750 Clocks, pkgs. 74 Stmpd ware, bxs 2 Rides, case. 18 Ag. imp., pkgs. 3 Sew. ma., cs. 20 Mach'y, cs. 20 Tacks, cs. 3 Idw., pkgs. 277 Salonica.

Ptlm., gals. 117,920 30,90 Alexandria. Ptlm., gala . 89, 110 9,500 French Possessions. Ptim., gals. 143,600 15,600 China. Clocks, boss ... 14

Clocks, brs... 14 230 Ptlm., gala.410,000 46,803 Revolvers, cae 1 378 Cartridges, cs 24 535 Pumpa, pkge. 1 19 Jii. 1014, blags 10 103 Hdw., pkge... 1 70 Japan.

Mf. iron, pgn. 23 183 Ag. im., pkgs. 7 6. Hdw., pkgs. 196 3,467 Nails, kegs. 29 73 Ptlm., gals. 491,000 55,309 Revolvers, 68 2 13 Ologks, bxa. 60 1,330

OLD METALS, PAPER STOCK. The purchasing prices offered by dealers \$0.15 % @ \$0.16 %
.13 % @ \$0.16 %
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.11 % @ .00
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Prought Iron light do.... Hove Plate. The prices current (prices paid by local calers) for Rags, &c., are as follows: 9 D. 3%c. @ 4 4.

White, No. 1. Seconds
Soft Woolens
Mixed Rags
Gunny Bagging
Jute Butts
Kentucky Bagging
Book Stock 2 C. @ 2%C. 2 C. @ 2%C. C. @ 4 C. 2%C. @ 2%C. 2%C. @ 2%C. %G. @ .%C.

PHILADELPHIA.

Office of The Iron Age, 220 South Fourth St., PHILADELPHIA, Dec. 13, 1881.

Philadelphia. Dec. 13, 1881.

Pig Iron.—The market during the week has been rather quiet, but in spite of dullness prices are strong. Foundry Irons show no change, and at the full prices quoted during the past two or three weeks, there is not much room for any immediate advance. ing the past two or three weeks, there is not much room for any immediate advance. Buyers are very careful in their selections, however, and anything of established character commands ready sale at fair prices, while choice brands are placed without difficulty at top figures. We still continue the lowest quotation, as there are new brands (and semetimes others pressed for sale so as to realize cash), which are occasionally available at low prices, but, as a rule, the medium quotation covers the bulk of the business. No. 2 Foundry is in fair demand, and commands last week's prices without difficulty. Mill Irons are the scarcest of any, and, for the time being, are probably the key to the market. There is a great deal of inquiry, and there have been a great many sales too, but the demand is far from being satisfied. It may be somewhat premature to talk of what is going to be done, but it is difficult to avoid the subject. Consumers want stock for January and February delivery—they have secured some—probably two-thards or more of what they are likely to require—but they have offers for large lines of finished Iron, and want material to cover. It is not that there is any immediate scarcity, although many are running very close, but the demand promises to be cover. It is not that there is any imme-liate scarcity, although many are running very close, but the demand promises to be unusually large, and manufacturers want to be in a position to meet it, and the first thing in order is to find a basis of cost. Hence the numerous inquiries for Pig Iron. Sales have been made as follows (in future Sales have been made as follows (in future we will quote the rates f. o. b. cars at furnace, instead of, as formerly, Philadelphia delivery—but to find Philadelphia prices add \$1.50 per ton): No. 1 Foundry at \$23.50 (@ \$26; No. 2, \$22 (@ \$22.50; Gray Forge, \$21 (@ \$22.50, and Mottled at \$20 (@ \$21. As regards the prices of Gray Forge, some leading companies are already getting \$23 at furnace for such small lots as they can spare, but they are not offerent. as they can spare, but they are not offer-ing Iron outside of their regular line of trade. ing Iron outside of their regular line of trade. Prices have not been announced for January, but it appears to be an understood thing that \$23 will be the figure, and most of the business done is predicated upon \$23 Pig. Others will probably follow suit, so that instead of \$21 and \$21.50, consumers may look for \$22 as a bottom figure for good neutral Irons. Foundry Irons will probably stiffen in sympathy, but there are no indications of any immediate advance, and prices will probably remain as they are. Foreign Iron is strong. remain as they are. Foreign Iron is strong, and it would be difficult to secure No. 3 and it would be difficult to secure No. 3 Middlesboro' for less than \$21 or \$22. The Middlesboro' for less than \$21 or \$22. The quantity here is unimportant, and according to latest advices, there is no prospect of its coming in without an inducement of \$2 or \$3 per ton more than can be seen in it at present. Scotch Iron is very little dealt in, but sales have been made in small lots at \$24 @ \$26, according to brand. Bessemer Iron is yery firm, and an advance of at least \$2 per ton is asked on prices paid ten days ago. Advices from abroad are favorable to hold-tons. ers, and \$27.50 @ \$28 are the named, but buyers appear to m response. A good deal depends on rates of freight, and at the extreme figures asked consumers feel that they can afford to wait. Stocks on hand are quite liberal, but with the enormous consumption which is in progress, frequent additions are desirable. Purchases of Crop Ends have been made to a large amount, one company having taken over 5000 tons during the current month.

Blooms .- The market is urchanged, and under a fair demand the following prices are quoted, viz.: Charcoal Blooms, \$72.50; Run-out Anthracite, \$60 @ \$62.50; \$52.50 for Scrap Blooms, and \$47.50 for Northern Ore Blooms.

Muck Bars .- The market is steady, but the demand is not very active. We hear of sales at \$44.50 @ \$45 at mill, which may be considered a fair market rate.

Structural Iron,-Manufacturers report numerous applications for large lots, and all the indications point to a very heavy demand during the first half of the coming year. Prices remain firm, and the specification must be a very desirable one to secure concessions. The demand szems to come from all classes of consumers, although during the week bridge builders and ship builders have been the most prominent buyers. We continue last week's quotations. our Augles 3¢ @ 3.25¢; Beams, 4¢; Channels and Tees, 4.25¢; Bridge Plates, 3.5¢; Rolled Axles, 3.5¢; Hammered, 3.75¢.

Plate and Tank Iron. - A large business is reported, and, as a rule, prices are very firm. An order for 1000 tons ship plate was given out to-day, most of it taken at about 3.35¢, although 3.5¢ is generally quoted. Tank Iron is firm at 3 5¢, although an order may occasionally be taken at a tenth less, owing to special circumstances—but there is no cutting because of the scarcity of work

Manufacturers quote as follows: Tank Iron, 3.5¢; Refined at 3.75¢; Shell at 4¢; Flange at 5.25¢ @ 5.50¢ and Firebox at

Bar Iron.—The market is quiet compared with the activity of the past three months, but prices are firm. A good many large orders are on the market, and we hear of several lots of 200 to 500 tons each, which were taken at 2.7ϕ @ 2.75ϕ , at outside mills. The city mills are very full of work, and are The city mills are very full of work, and are not quoting on large lots, but for such as they can supply promptly, 2.75¢ @ 2.8¢ is obtained. It is difficult to say what turn affairs may take after the holidays. It is possible that prices may go a shade higher, but nobody wants to see a "boom," and if there is any advance at all, it is not likely to be of much importance. The condition to be of much importance. The condition of business in this vicinity is perfectly healthy, production about up to its maximum, and so far as we can learn, is barely equal to consumption. Reports from other Iron centers are of a similar character, and a steady remunerative trade is confidently looked for during the coming year.

Sheet Iron.—There are a good many in-quiries from large buyers for next year's delivery, and concessions in prices have been looked for, but manufacturers are firm, and expect to maintain the rates which have Stocks are very light, and as the demand is likely to be large, it is considered best to keep to uniform prices. In the meantime the following are the figures usually quoted,

Common Sheet, No 27 and 28
Common Sheet, No. 26
Common Sheet, No. 22 to 2543/4
Common Sheet, No. 16 to 21
Best Refined 1/4 @ 1/4 advance on the above.
Best Bloom Sheets, No. 26 to 28 2#
Best Bloom Sheets, No. 22 to 25
Best Bloom Sheets, No. 16 to 21
Common Red Plates, 3-16 to 16
Blue Annealed, 3-16 to 16
Best Bloom Galvanized, discount3. 5
Second quality, discount

Wrought Iron Pipe.—There is a heavy demand at last week's quotations, viz.: 371/4 % discount on Boiler Tubes and 55 % on Gas and Steam Pipe.

Steel Rails .- The market is very Steel Rails.—The market is very active, and prices are said to be strong, but orders appear to be taken at the old prices, nevertheless. One lot of 10,000 tons is believed to have been taken at less than \$60, and quite a number of other lots at \$60 @ \$62. The rapid increase of production has \$62. The rapid increase of production ass considerable influence upon prices, not-withstanding the undoubted large consumptive requirements of the country. There are five mills in Pennsylvania alone capable of turning out 15,000 tons per week, with additions and improvements still in progress by which it is not unlikely that the total caracter of Pennsylvania will reach nearly. pacity of Pennsylvania will reach nearly 20,000 tons per week before the close of 1882. For this reason every effort is made to accommodate good buyers, in the hope of preventing further heavy imports. As re-gards foreign Rails it is intimated that a large contract has been recently closed for deliveries at gulf ports, but we have no details, and so far as we can learn, no sales of that character have been negotiated in this

Steel Blooms .- There is nothing doing, business being at a complete standstill pending advices from Washington. Sellers quote \$46, duty paid, or £6. 12/6 @ £6. 15/

Iron Ralls.—There is scarcely any demand of a character likely to lead to business. Some inquiries have been made on behalf of Western and Southern roads, but the deliveries are such as will be likely to prevent business. Small lots are moving off at \$48.50, and \$48 would probably be accepted for a good-sized order, but prices seem to be above buyers' views. Light Rails command \$50 @ \$53 at mill. There are a few lots of foreign Rails here and at other points offering at low prices, but we have not heard of any actual sales. to prevent business. Small lots are mov

Railway Fastenings .- Prompt deliveries command about a tenth advance on regular quotations, which are as follows: Spikes, 3.15¢; Fish Plates, 2.6¢; Bolts and Nuts,

Old Ralls .- The market is weaker and holders are inclined to make concessions to secure prompt cash buyers. The demand is very light, however, and it is difficult to get offers of \$29 for shipment, although they are offered at \$29.50. A 2000-ton lot of Doubles was taken at \$31 for February and March shipment, but there is very little disposition to carry stock at current rates.

Crop Ends .- The market is firm and higher, holders asking \$28 and not offering very heavily. No sales reported during the

Old Car Wheels-Offered at \$28.50 in Baltimore, but not much demand at present.

Scrap Iron.-Stocks are very light, and under an active demand, prices are firm. Choice No. 1 commands \$31 @ \$33; Fish Plates held at \$35 and Machinery Scrap at

Nails,-The demand is fair, and, with light stocks, prices are well maintained—say \$3.30, net, to the trade.

PITTSBURGH.

Office of The Iron Age, 77 Fourth Avenue, PITTSBURGH, PA., Dec. 13, 1881.

Two rolling mills have been put out of the Two rolling mills have been put out of the way for the present during the past week. one of these, owned by Graff, Bennett & Co., was almost destroyed by fire, while the other, the Keystone (owned by Lindsay, McCutchoon & Co.), was disabled by an explosion of the boilers connected with the same, although it is believed that it can be remained and standard within a formation. repaired and started up within a few weeks. In addition to the direct loss of property, both of these mills, like all others here, were full of orders, and the owners thereof are a good deal perplexed in consequence. accidents will of necessity reduce the unfortunate mills elsewhere.

Pig Iron.—There has been a fair degree of activity the past week, and the volume of business could be largely increased if sellers were to be found. Commission men sellers were to be found. Commission men-continue to report very limited offerings, and that there is a good deal more difficulty in getting the Iron to sell than to find buy-ers. Of course, poor or unknown brands are hard, as is always the case, to dispose of, but favorite brands sell readily at full of, but favorite brands sell readily at full prices. That the situation is favorable to the producing interest is beyond dispute, and it looks very much as though higher prices in this market is only a question of a little time. We continue to quote good Neutral Forge Irons strong at \$23.50, cash, to \$24,4 mos., with a sale of all-ore at \$26, cash. Foundry grades are also scarce and in demand, and may be quoted at \$24 @ \$26 for Nos. 2 and 1 Bessemer. While the last sales reported were at \$28 @ \$28.50, furnacemen are now asking from \$29 to \$30, with but few offers to sell.

Muck Bar.-There does not appear to be quite as much inquiry, but the offerings con-tinue light, and prices remain without quot able change; a good quality may be fairly quoted at \$45 for immediate delivery.

Manufactured Iron.-Notwithstanding we are now in what is usually considered the dull season, there appears to be no abate-ment in the demand, and turning orders away continues to be a very common thing. Manufacturers have all—some of them a good deal more—than they can get through with this year, and they do not appear willing to book anything more for next year. The fact that the winter thus far has been remarkably favorable for outdoor work has had much to do with outdoor work has had much to do with keeping up the demand, and the fact that both jobbers and consumers can see no reason why prices should decline, but, on the other hand, a possibility, if not a probability, of an advance, makes them anxious to contract for future delivery at current rates. Manufacturers are making every effort to set threads with the contract but on get through with existing contracts, but, as a rule, they are refusing to take anything for next year. Some of them express a willingness to book orders with the understanding that they will deliver as soon as they can, and that they are to have ruling prices when the goods are delivered. Prices prices when the goods are delivered. Prices firm at full card rates. Merchant Bars, 2.50¢; Sheet, 4.30¢ for No. 24; Tank, 3.30¢; 3.10¢ @ 3.30¢ for common Barrel Hoop, and 3.10¢ @ 3.30¢ for lighter. Pipe Iron is quoted at 3¢. Boiler Plate, according to brand, ranges all the way from 5¼¢ to 7¼¢.

Nails .- While the demand from the Northwest has fallen off somewhat, as it al-ways does at this season of the year, there is a continued active local demand, and the is a continued active local demand, and the the mills, notwithstanding we are right in the midst of the dull season, have all they can do. Contracts might be made for Janu-ary at existing rates, but not beyond that month. We repeat former quotations, \$3.25, 60 days, with 2 % off for cash, and the usual abatement of 10¢ per keg on carload lots.

Wrought Iron Pipe.—The Pipe mills have been pressed with orders since early in the summer. Prices unchanged; discount on Gas and Steam Pipe, 55 @ 57½ %; on Boiler Tubes. 37½ %. Oil-well Casing and Tubing unchanged, at 85¢ and 25¢ per foot, net.

Steel.—While, possibly, the demand is not quite as active as it has been, not so many new orders coming forward, the mills are pretty well employed. Prices for the finer grades have varied very little during the entire year; for the lower grades there is more competition and consequently more cutting. Steel Boiler Plate has been in active demand since early in the spring, and prices are steady at 6½ @ 7¢. Standard prices are steady at $6\frac{1}{2}\phi$ @ 7ϕ . Standard brands of Refined Cast Steel, 11 ϕ for large Machinery, 6½¢@ 7¢; Bessemer and Openhearth do., 5¢; Openhearth Spring Steel, 4½¢; do. Plow, 4¼¢@ 4½¢.

Rails, &c .- There is no abatement in the Halls, &c.—There is no abatement in the demand for Steel Rails, and prices here are quoted firmer at \$62 @ \$63, cash, at mill, for near-by, and \$60 @ \$61 for future deliveries. Railway Spikes, 3¢, 30 days; Track Bolts, 3.90¢ @ 4.25¢; Splice Bars, 2.60¢ @ 2.75¢.

Blooms and Billets.—Bessemer Blooms and Billets are quoted all the way from \$55 to \$75 per ton, according to carbon, and the mills are unable to meet the demand.

Scrap.—Business in this, as in all other branches of the Iron trade, is seriously affected by the horse disease. Prices remain about as last quoted. Wrought Scrap, \$29 @ \$30 per net ton for Ordinary, and \$29 @ \$30 per net ton for Ordinary, and \$31 @ \$32 for selected Railroad; Wrought Turnings, \$19 @ \$20 per net ton; Boiler Plate, \$32 @ \$33; Old Car Springs and Axles, \$38 @ \$40; Crop Ends, \$30 per gross ton; Car Wheels, \$30 @ \$32; Cast Borings, \$15 @ \$16; Cast Scrap, \$22 @ \$23.

Window Glass .- As in the case of Nails, the demand from the West has fallen off, but there is a continued good local trade, and prices are steady, with stocks in first hands very much reduced.

Coke.—There is rather a better supply of cars, although still far below the requirements of the trade; probably not one car can be obtained when five are wanted, and this important and rapidly growing interest ery much hampered in consequence. fact of the matter is, the railroads are not able to meet the demands made upon them for transportation by the Coke makers, and there appears to be no hope of relief until additional railroad facilities have been provided. Prices may be quoted at \$1.65 @ \$1.75 per ton, delivered free on cars at

Coal.—Since the resumption of river navigation, about a month ago, close on to 12,000,000 bushels have been forwarded to the down-river markets. Nearly all the tow boats have returned with tows of empty Coal craft, thereby enabling the works to start up again. There is a good deal booked and ready for the next freshet, and it would be to the mutual advantage of both Coal between the coal craft and ready for the next freshet, and it would be to the mutual advantage of both Coal between the coal craft and ready for the next freshet, and it would be to the mutual advantage of both Coal craft, thereby enabling the works to lots command \$2 @ \$3 per ton above these damand and stocks are small. Prices are, No. x Hanging Rock, Coal craft, thereby enabling the works to lots command \$2 @ \$3 per ton above these damand and stocks are small. Prices are, No. x Hanging Rock, No. x Southern, Charcher Charc Coal craft, thereby enabling the works to start up again. There is a good deal booked and ready for the next freshet, and it would be to the mutual advantage of both Coal production of Finished Iron, which has been considerably below actual requirements for several months past, and it will be difficult to place the orders of these two embargo.

CHICAGO.

Office of The Iron Age, 36 and 38 Clark Street, cor. Lake Street, CHICAGO, Dec. 12, 1881. Pig Iron .- The market continues about Plg Iron.—The market continues about the same as at our last writing; if anything, slightly better prices are being obtained for Lake Superior Charcoal Iron, and most dealers are inclined to refuse orders for future delivery at present prices, intimating that an advance is likely to take place on the opening of the new year, which some believe can be sustained, while others think it cannot Invested Scotch of which there it cannot. Imported Scotch, of which there is on this market at present about 500 tons, with several hundred more expected to arrive this week, is very strong and has been advanced from \$29 @ \$30 to \$30 @ \$31. advanced from \$29 @ \$30 to \$30 @ \$31. Lake Superior Charcoal is quoted as fol-lows: Nos. I and 2, \$31; No. 3, \$32; Nos. 4, 5 and 6, \$33 @ \$34. Calumet No. I, \$28; No. 2, \$27; Crane, No. I, \$29; No. 2, \$28.50. American Scotch, \$25.50 @ \$28.50; Thomas, \$28.50 @ \$30, and Silvery Soft \$24 @ \$26

\$28.50; Thomas Soft, \$24 @ \$26. Manufactured Iron.—The market during past week has been active, and quotations firm at the following figures: Bar, 3¢; Angle, 4¢; T, 4½¢; Beams and Channels, 4½¢ @ 4½¢; Hoop at 3.80¢ rates. Sheet, Plate and Tank, which latter is very scarce, as follows: 10 to 14 gauge, 4¢; 15 to 17 ditto, 4.30¢; 18 to 21 ditto, 4.60¢; 22 to 24 ditto, 4.80¢; 25 and 26 ditto, 5¢; and 27 ditto, 5.20¢. Patent Cold-rolled Shafting, dis. 20%; Norway Iron, Original Bars, 5¢ rates; Norway Iron, re-rolled, 5¾¢ rates; Ulster Iron, 4½¢ rates; Low-Moor Iron, 8¢ rates; Nuts and Washers, 7¼¢ off list; Wrought Boat Spikes, 4¢ rates. The assortment of stocks still continues unsatis-Manufactured Iron.-The market dur assortment of stocks still continues unsatisfactory to the dealers, and they are put to considerable inconvenience in filling orders.

Nails.-We have no change to note. The tone of the market is strong and the demand active. We quote rod. to 6od. very firm at \$3.40 per keg, in carload lots, and \$3.50 for small orders.

Steel .- The demand is active and prices rm, as follows: Tool, 11 1/2 \phi; Machinery, H., 5 1/2 \phi; Crucible Machinery, 7\phi; Hammer, 2 inches and under, 8¢; over 2 inches, 0¢; Cast Spring, 6½¢; and O. H. Spring, Tire and Sleigh Shoe, 5¢. The quotations on this latter class of Steel would be shaded a trifle on large lots. Sheet, first, secsnaded a trine on large 10ts. Sneet, first, second and third quality, 12ϕ , $10\frac{1}{2}\phi$ and $8\frac{1}{2}\phi$, respectively; Crucible Plow, 6ψ @ $6\frac{1}{2}\phi$; Eagle Plow, $5\frac{1}{2}\phi$; Iron Center Plow $10\frac{1}{2}\phi$; and soft Steel Center Plow, $10\frac{1}{2}\phi$.

Scrap Iron.—The market has a dull tendency, and the demand is moderately fair. We quote dealers' purchasing prices as follows: No. I Wrought Scrap, \$24 @ \$25, net ton; No. I Railroad Scrap, \$27 @ \$25; ditto Heavy Cast, \$20; ditto Stove Plate, \$14; ditto Cast Iron Borings, \$7 @ \$8, and ditto Machine Shop Turnings, \$11 @

CHATTANOOGA.

Office of The Iron Age. Market and 8th Sts., CHATTANOOGA, Dec. 12, 1881.

General trade in the South is always at its best during the month of December, though heavy trade in Iron and other articles is apt to be quiet, as dealers and consumers are preparing for the yearly settlement; this year is almost an exception, heavy trade being unusually active for the season. Prices are entirely steady. The weather for the week has been of the Indian summer variety, warm days and frosty nights, clos-ing with a sharp northerly wind, which indicates snow in that direction. The streams are all in good boating condition, and business in that line is unusually heavy.

Pig Iron.- There is nothing new to report. The sales are sufficient to keep stocks down to the minimum. We quote: No. 1 Foundry, \$24 @ \$26; No. 2 Foundry, \$21 @ \$22; Gray Forge, \$19 @ \$20; White and Mottled, \$16 @ \$18; Car-wheel Metal, \$38 @ \$40.

Ores .- O'Connor & Co. have just fairly opened their bed of fossil ore, near Godsden, Ala., and are getting out about 200 tons daily. The capacity of the mine, when fully worked, could be brought to five times this amount. There is still some difficulty in getting ore to furnaces situated on a single line of road. Cars are something plentier, but there are not enough yet. We quote: 50 % Brown Hematite, per ton, \$2 @ \$2.75; Red Fossil, \$2 @ \$2.25, delivered at furnace.

Miscellaneous Articles .- Old Rails continue in good request at \$28. Scraps are steady. Wrought Scrap, \$20 @ \$25; Cast Scrap, \$10 @ \$15; Old Wheels, \$28 @ \$30.

Manufactured Iron.—Bar is steady at \$2.75 rates. Railroad material is very active, dealers and mills finding great difficulty in filling the demand. We quote Railroad Spikes at \$3.30: Track Bolta \$4.07. The control of the control o Spikes at \$3.30; Track Bolts, \$4.25; Fish Plate, \$3.

Coal .- So far, a very mild fall and winter has favored the householder and kept prices of Lump just below the famine mark. Run of mine is still at \$2 at mills. Fancy Lump, Common, \$4.25.

Coke.—Furnace Coke, \$3 at point of consumption; Foundry, 10¢ @ 12¢ per bushel. Steel and Iron Rails.—Steel Bars, \$62 @ \$64 at mill; Iron, \$50 @ \$52; Small, \$57

BOSTON.

DECEMBER 9.—The market for Pig Iron is quiet but firm, and any change in quotations will probably be upward. The market is, however, fairly active for this season of the The furnaces are delivering steadily and there promises to be but little surplus stock at the opening of the new season. The demand and stocks are small. Frices are, however, firmly maintained. We quote Eglinton at \$23 @ \$24 for moderate-sized lots; Langloan, \$26; Gartsherrie, \$25 @ \$26; Carnbroe, \$24.75 @ \$25; Glengarnock, \$25; Clarence No. 3, \$22; Shotts, \$26 @

\$26.50. Old Rails.—Old Rails remain stead \$20.50. Old Rails.—Old Rails remain steady at quotations. We quote \$31 for American and \$30 for foreign. Manufactured Iron.

There is no report of any abatement in the demand for Manufactured Iron. The mills demand for Manufactured Iron. The mills generally have orders enough to carry them over till next season and are said not to be anxious for new business. Seasonable goods such as piping of all descriptions, horse shoes, &c., are in such demand that the market is almost cleared of them. The demand for Plate Iron continues to be very large and steady, and the trade in Sheet Iron remains excellent. The Bar Iron dealers report that business continues in a very satisfactory shape and stocks remain very light. The country trade is now coming in for their winter supply. Prices on all classes are firm and unchanged. The great activity in railroad and car building has developed an enormous demand for Iron, and has kept the market firm and strong by taking has kept the market firm and strong by taking all surplus stock. Steel has not been in such great request as Iron, but there is a steady grat request as Iron, but there is a steady trade, and dealers are not willing to make any concessions. Nails are quiet, as usual at this season. Bar Iron.—We quote \$2.90 @ \$3 for Bar. Horse Shoes are in excellent demand and very strong at \$4.25 @ \$4.33. Swedish and Norway are very firm at \$4 for Bars, and \$4.75 @ \$5 for Shapes. Plate Iron.—We quote Tank at 3\%\psi\$; Refined at 4\%\psi\$; Shell at 4\%\psi\$; Flange at 5\%\psi\$, and Tubes very firm at 37\%\psi\$; From list. Sheet.—We quote: Sheet Iron, 4\%\psi\$ @ 6\%\psi\$; Galvanized, 8\%\psi\$ @ 11\%\psi\$; Russia, 11\psi\$ @ 12\psi\$. Steel.—The demand continues steady. We quote: Best English Cast, 14\psi\$ @ 15\psi\$; American do., 12\psi\$ @ 12\%\psi\$; Bessemer Machinery, 5\psi\$ @ 6\psi\$; Wedge and German, 7\psi\$; English Spring and Calking, 7\psi\$ \psi\$ @ 7\psi\$ itto ditto American, 5\psi\$ \psi\$ @ 3\psi\$ \psi\$. Nails.—There is a quiet trade at unchanged prices. We quote \$3.40 @ \$3.50 for 10\psi\$, per cask. Copper.—The market for Ingot is quiet but very firm, with an upward tendency. Veguate 10\psi\$ end of \$\psi\$ of for Io\psi\$, and for Ingot. Manufactured and the supplements 10\psi\$ end for Ingot. Manufactured very firm, with an upward tendency. We quote 1934 @ 20\$ for Ingot. Manufactured very firm, with an upward tendency. We quote 1934 \(\phi \) @ 20\(\phi \) Ingot. Manufactured is quiet and unchanged at the recent advance. We quote: Sheathing, 28\(\phi \); Braziers, 30\(\phi \) 32\(\phi \); Bolt, 30\(\phi \); Copper Bottoms, 31\(\phi \) 32\(\phi \); Bolt, 30\(\phi \); Copper Bottoms, 31\(\phi \) 32\(\phi \); American Yellow Sheathing Metal, 20\(\phi \); Yellow Metal Bolt, 22\(\phi \); English Yellow Sheathing Metal, 16\(\phi \), in bond. Lead.—There is a fair demand for Lead and the quotation has advanced to 5\(\pmi \) for carload lots, and the market is still advancing. Manufacturers' prices are un hanged. We quote: Bar, 6\(\pmi \) \(\phi \); Pipe, 7\(\pmi \) \(\pmi \); Sheet, 8\(\phi \); Tin-lined Pipe, 15\(\phi \); Tin Pipe, 35\(\phi \), all less 10\(\pmi \). Spelter.—There is a continued scarcity of Spelter, and we quote \(\pmi \). 10\(\pmi \) \(\pmi \). Sheet Zinc is scarce at \(\pmi \). 75\(\pmi \) \(\pmi \). 88.25. \(Tin \).—There is a stronger feeling in Tin, and prices have advanced owing to advances in London. Shipments to England continue. We quote 23\(\pmi \pmi \) \(\pmi \) 24\(\pmi \). Tin Plates.—Prices are firm 23½¢ @ 24¢. Tin Plates.—Prices are firm and trade is steady. We quote: Charcoal Bright, \$6.50 @ \$6.75; Ternes at \$5.75 @ \$7.75; Cokes, \$5.50 @ \$6; ditto Ternes, \$5.25 @ \$5.50.—Commercial Bulletin.

CINCINNATI.

DECEMBER 12.—Pig Iron.—The business the past week was very active, both in sal and deliveries, the trade mostly confined the immediate wants of consumers. T market has an outlet by river, rail and lab to consumers in Missouri, Kansas, Nebraski Colorado, New Mexico, Montana, Dakot Minnesota, Wisconsin, Iowa, Illinois Mich gan, Indiana, Kentucky, Ohio, West Vi ginia, West Pennsylvania and West Ne York, and reaches the Dominion of Canada largely with Car Wheel kinds, and draws supply from Virginia, Tennessee, Georgia, Alabama, Kentucky, the Hanging Rock, Hocking Valley and Mahoning districts, in Ohio, and the charcoal furnaces in Michigan. The statistics of the requirements of consumers in the districts named above are well kept here and known to the trade ability of producers in the districts above named to furnish supplies is also well in hand. It is thought that the requirements for consumption through the coming year will only be adequate to meet them. Frices have been well sustained through the past week. The holidays seem to have had, so far, but little influence to diminish the volume of trade. Quotations for the past week: Hanging Rock Charcoal Foundry, \$29.50; Tennessee Charcoal Foundry, \$28.50; No. I Ohio, Kentucky and Virginia Coke, \$27 @ 1 Onlo, Kentucky and Virginia Coke, \$27 @ \$28: Best American Scotch, \$27 @ \$27.50; Silver Gray Softeners, No. 1, \$25.50; No. 2, \$24.50; No. 3, \$23.50; Cold-blast Charcoal Car-wheel, \$35 @ \$38: Warm-blast, \$29 @ \$35. Bar Iron; \$2.50 card rate for Common Charcoal; Refined in demand, and orders placed at from 164 Good American

W. B. Belknap & Co., Iron and Steel Merchants, Nos. 113 and 115 Main street, report to us as follows, under date of Dec. 10: Bars are firm at card, and while there is no disposition to cut price, there is little distinction made between wholesale and retail buyers. Prices would be somewhat fact probability. January will see a stronger market.

Messrs. GEO. H. HULL & Co., Commission Merchants, report to us as follows, mission Merchants, report to us as follows, under date of Dec. 9, 1881: The market is quiet but firm; nearly all the consumers are well supplied here by purchase. The amount of iron being received and delivered on contract is large, but sales small. Our quota-

No.	x Hanging	Rock,	Charcoa	1		29.00	0	30.00
No.	2 10					27.00		
No.	z Southern	, Char	coal			26,00	0	27.00
No.	3					24.00	0	25.00
NO.	r Hanging	Rock	, Stonec	laoi	and			
U	oke					27.00	0	27.50
To.	s Hanging	Rock	, Stone	coal	and		_	

	12 DOT 11 TE	ESCHOOL TO
y	No. 1 Southern, Stonecoal and Coke	26,50 @ 27.00
n	No. s " " "	25.00 @ 20.00
	"American Scotch"	24.00 @ 25.00
-	Bilver Gray	
е	Beotch	@
8	MILL IRONS.	
n	No. z Charcoal, Cold-short and Neu-	
0	tral	24.30 @ 25.00
	No. r Stonecoal and Coke, Cold-short	100
8	and Neutral	23.50 24.00
0	No. 2 Stonecoal and Coke, Cold-short	
В	and Neutral	23,00 @ 23.00
В	No. 1 Missouri and Indiana Red-short	25.00 @ 26 00
5	White and Mottled, Cold-short and Neutral	
46	Neutrai	18.00 @ 20.00
t	CAR WHEEL AND MALLEABLE IN	ONB.
1	Hanging Rock, Cold-blast	35.00 @ 38.00
	Alabama and Georgia, Cold-blast	34.00 1 38.00
- 1	Kentucky Cold-blast	34.00 @ 36.00
1	Hanging Rock, W. B	30.00 @ 33.00

ST. LOUIS.

Messrs. Hoffer, Plumb & Co., Pig Iron and Iron Ore Merchants, 417 Pine street, write us, under date of December 10: write us, under date of December 10: The market is perhaps not so strong as it has been, the closing of the year, no doubt, having its effect. Prices, however remain unchanged. The general opinion seems to be that while present prices may continue through the winter, the spring will find the surplus of Iron so much larger that prices will decline to a lower basis than at present. The enhanced price of making Iron, how-ever, is considered an element which will

check any very material reaction.
HOT BLAST CHARCOAL.
Missouri
COAL AND COKE.
Missouri
Red-short
Missouri

BALTIMORE.

R. C. HOFFMAN & Co., Iron and Commission Merchants, report the Pig Iron mar-ket as follows, under date of Dec. 12: The Iron market is without material change. Consumption heavy and steady and fully up to the supply of Pig Iron. Prices strong and but little changed since last report. We

dance an	TO 13 C 11 D			
Baltimore	Charcoal	Wheel Iro	n	\$36.00 @ 37.00
Virginia (B. Whe	el Iron	*****	36.00 @ 38.00
				25.00 @ 27.00
**				23.00 @ 24.00
6.5	No. 3	and White		21.00 @ 22.00
	Mottled	and White		19.00 @ 20.00
Charcoal	C. B. Bloc	oms		70.00 @ 72.00
Refined B	looms			\$7.00 @ 62.00
TAT BY	TIT TOWNER	Tuon on	Chanl	Monohant

W. N. WYETH, Iron and Steel Merchant, 46 and 48 South Charles street, reports us the following, under date of December 12: Trade for the past week has ruled rather quiet, but this is incidental to this season of the year. Supplies are somewhat on the increase, but with no quotable change in

Ref. Bar Iron, z to 6 x 3/4 to z \$\mathbb{P}\$ " z to 4/2 x z/3 to z \$\mathbb{P}\$ " 4 to z, Round	D :	2 8-10	66	3	¢¢
and Square	Th :	2 8-10	0	2	é
Hoop Iron, 11/2 wide and upward	44	336			
Band Iron, from 11/4 to 4 in. wide	-84	. 9	0	314	è
Horse-shoe Iron	66	236	0	4	è
Norway Nail Rods	4.6			6	
Black Diamond Cast Steel	44			43/2	
Machinery Steel	66			9561	
Cast Spring Steel	66	8		836	
Common Horse Nails				14	
Perkins' Horse shoes W keg of 100	lbs.		54.	37 %	á
" Mule shoes		*****	. 5	377	ś

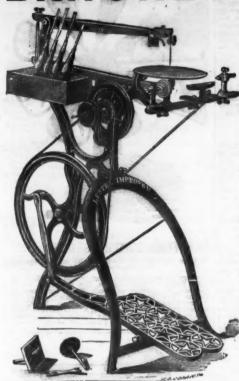
Our English Letter.

Review of the British Iron, Steel, Metal and Hardware Trades.

(From our Regular Correspondent.) LONDON, ENG., Nov. 28, 1881.

Iron has been quiet since I last wrote, and has presented very few special features. The changes noted have been in both directions, some up and others down, but their scope has not been wide, and they have not been of a representative character. Generally speaking, matters remain steady all round, with an abundance of occupation at the works, and with a general disposition on the part of producers not to commit themselves too far in advance. The wisdom of this policy is unquestionable, but it is most difficult to embody it in practice. Middlemen and speculators will buy when they believe prices are at "hard pan," and at such junctures producers are rarel position to criticise their customers. are too glad to sell on any terms in fact, and cannot pick and choose. On a rising market it is very different, and nobody can blame makers for endeavoring to retain control of their own lines of goods. At present they are believed to have been fairly successful in this direction, but it is not yet time for the measure of their success to be gauged. Three weeks or a month of slackness would alone administer a test. At all events it distinction made between wholesale and retail buyers. Prices would be somewhat weakish had not Pig Iron moved up to form a solid basis to the Bar list. Scrap is sought ing very cautiously. They decline to for, small country lots bringing from \$1.10 @ undertake deliveries beyond the end of 1881, \$1.30 for Wrought. Sheet is offering more save on the express condition that the prices freely, and for the lighter numbers there is to be paid shall be those which obtain at the hardly seasonable demand, as the weather times of the deliveries. This is a sound conhas been warm. Nails are scarce and gather-dition, and if it could be universally endition, and if it could be universally en-forced it would be the death of speculation. ing strength. They are up to full card, and an advance is not without the range of probability. There is a general feeling that line can be drawn, and so long as there are fluctuations in prices just so long will there be speculators. It has to be conceded, indeed, that these gentlemen have their uses, and that their action has on more than one occasion adminstered new life to some of our great industries. Just now the course of speculation—not in iron and steel pure and simple, but in all sorts of useful and adventurous projects—is wide and strong. The draftsmen employed in drawing up private acts of Parliament for next session are excessively busy—indeed, they have not been so actively engaged since 1845, when the great railway era was in full swing. The whole of the new schemes have not yet been formulated, but it is already known that something over £100,000,000 of money are

BRACKET



ware Stores. They make trade lively about Christmas time, when it would otherwise be dull. The demand is ch that any dealer can sell a few he has them in stock. During the past six years a great number of saws have been put on the market, of more or less merit, but at present the demand is almost wholly for the Lester and Rogers Saws. The Lester Saw with all of its attachments sells for \$10.00, and the Rogers Saw for \$3.50. These rates seem low, but we are able to sell at such prices Saws which give entire satisfaction, with no come-back on the Dealer.

We are also Headquarters for Saw Blades, Wood, Designs, and all things pertaining to the Bracket Saw-

A fair discount to the trade.

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HEATON & DENCKLA HARDWARE CO., Hardware Commission Merchants,

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E. & G. BROOKE'S "Anchor Brand" Nails, Brads, EXCELSIOR MILLS, Genuine Turkish Emery. Spikes, &c. MALLORY, WHEELER & CO.'S Door and Pad Locks.

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BROWN & BRO,'S Silver Plated Spoons Forks, GAYLORD MANUFACTURING CO.'S Till, Ches and Cupboard Locks.

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Double Shearing Cut. Solid Cast Steel

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Every family should have one. Will thoroughly cut Raw or Cooked Beet or Pork, Vegetables, Cocanuts, Pine Apples, &c. Will cut forty pounds sausage meat an hour.

Every Pruggist should have one for cutting Roots, Vanilla Beana, &c.
Easily worked. Easily cleaned. Will not get out of order. Ask your dealer for them. Send a postal for Circular with testimonials. Will send one as sample by express upon receipt of \$1.00. A Butcher for power, will cut 1000 pounds an hour.

Will send one as sample on receipt of \$1.00. Our No. A Butcher for power, will cut 1000 pounds an hour.

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We warrant our Cutters to do the work more thoroughly than any other machine madds.



Are Made on the Same Principle as the Gem Meat Cutters,

pounds an hour.

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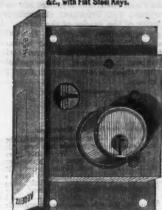
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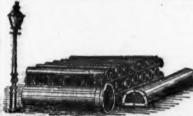
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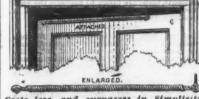


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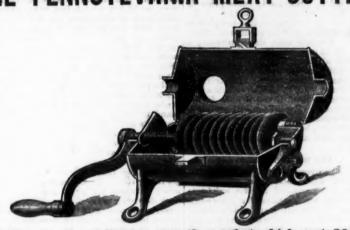
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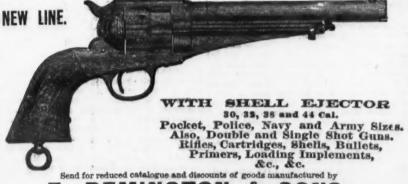
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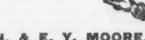
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proposed to be expended. This amount, which may be doubled prior to the end of November (before which the necessary notices and advertisements: must be published), will be expended in railroad, tramway, electric light, telephone, steamship, trading, commercial, mining, industrial and other enterprises. Many new railways around London are projected—one scheme alone involving the making of 24 lines—and the principal roads seek powers to extend and improve their several undertakings. Tramways in the metropolis and its vast series of suburbs are also prominent. They are good investments and offer legitimate attractions to those who seek something better and more permanent than ordinary stock exchange securities. In many of the large and some of the smaller towns these lines are to be extended, and it is oven proposed to construct them along the common roads of tolerably populous rural localities, where they may act as feeders to the existing railroads, as well as create a passenger traffic of their own. These railroad and tramway schemes will necessarily need a great quantity of iron and steel, especially rails. The tramways will also require a large supply of cars, probably from the United States, as we do not seem able to make them for ourselves. Docks and tour them for ourselves. Docks and tour them for ourselves. Docks and tour them for ourselves, and the network working time to four days weekly. Should supply the state of t port improvements will, further, cause a considerable expenditure, and the network of telephones will enhance the demand for of telephones will enhance the demand for wire and miscellaneous fittings. As to the application of Siemens Bros. and others for powers to lay in cables, fix machinery, &c., for the supply of light and power to manufactories, dwelling houses, &c., there will be a severe parliamentary fight, as the innovators will have to face the formidable array of vested interests sure to be marshaled in battle array against them. Generally speaking, British public opinion is favorable to the electric light, but when it comes to a question of touching gas shares and other (now) sound investments it may prove to be a horse of another color. Steamship enterprise is another form of enterprise likely to be developed, not by Parliament, it is true, but as one of the legitimate consequences of active veloped, not by Parliament, it is true, but as one of the legitimate consequences of active business. Further than this, however, I need not go at present. It may suffice when I say that all around us there are many symptoms of renewed commercial activity, and of the reawakening of that spirit of enterprise and "go," which have in the past done so much to keep Great Britain in the val of progress. The present—or coming—

On the other side of the account:
Gov't securities. £3,244,014 No change.
Other securities. \$2,350,832 Decrease...£20,417
Notes unemploy d 9,903,135 Decrease... £40,630
The amount of notes in circulation is £25,551,275, being a decrease of £434,295, and the stock of bullion in both departments is £20,610,746, showing a decrease of £70,273 when compared with the preceding return. This gives an increase of £364,000 in the reserve during the week, and brings it to 40 per cent. of its proportion to liabilities. There is a falling off in the bullion stock of over £6,000,000, as compared with a year ago, and the reserve is a further.
£5,000,000 lower. These figures show the £5,000,000 lower. These figures show the necessity for caution, especially in the face of not dissimilar features on the Continent, where the French Bank is uncomfortable and the German returns not wholly favor-

THE IRON MARKET,

as regards prices, has not undergone any considerable alteration, and, as I have already briefly stated, the works are almost universally well employed. Scotch pig is steady, and there has been more done in warrants. It is stated that in makers' own hands in Scotland there are 335,000 tons of pig, which, added to 617,000 tons in Connal's stores, brings the total vary close to 1,000,000 tons. The production of the Scotch furnaces weekly at present is estimated at 22,600 tons from 105 furnaces, and the local consumption at 9500 tons, hence the shipments should reach 13,000 tons weekly to balance the current production. Last week they were 11,153 tons, and 2914 tons were added to the official stores, so that something like 1000 tons may have been transferred to Connal's care from makers' yards. A year ago makers' own stocks in Scotland were about 223,000 tons, and Connal's 481,000 tons, hence during the interval has exceeded the contons weekly to balance the current production. Last week they were 11,153 tons, and 2014 tons were added to the official stores, so that something like 1000 tons may have been transferred to Connal's care from makers' yards. A year ago makers' own stocks in Scotland were about 223,000 tons, and Connal's 481,000 tons, hence during the interval the make has exceeded the consumption by nearly 250,000 tons, assuming that the two conditions were equal a year ago, which was by no means the case. Cleveland is quietly firm. The estimated weekly output of ordinary pig iron there is about 47,900 tons from 116 furaces. The local consumption and rail deliveries are set down at 23,500 tons, learing a balance for shipment of about 14,000 tons. Last week's shipments were over 19,000 tons, hence the reserve is declining. In Connal's and other public stores at Middlesboro' there are 191,000 tons, and a decrease of 600 tons on the week. The total diminution for November will probably reach over 20,000 tons, and a decrease of 600 tons on the week. The total diminution for November will probably reach over 20,000 tons, hone the reserve is declining. In Connal's and other public stores at Middlesboro' there are 191,000 tons, and a decrease of 600 tons on the week. The total diminution for November will probably reach over 20,000 tons, hone of the makers are shown and rail weekly. The local consumption and rail

ranged from 51/3 to 50/4 since my last, being now about 50/9 @ 51/. Writing from Glasgow, November 26, James Watson & Co. report: "We have no change to report ANARKET

AVORABLE At the moment for greatly hampered by the existence and prolonged maintenance of a 5 per cent. bank rate. There are many old-fashioned persons who hold this to be a most fortunate circumstance for the best interests of all departments of legitimate business, but the speculators, and those who wish to grow rich in a few weeks, rather than by the steady pursuit of trade, are immensely dissatisfied. They adduce the plenitude of money in the country, the absence of foreign loans and sundry other circumstances, as proofs of the absurdity of dear money, but their arguments fall flat and stale, and they find their waitings unheeded. Last week the return of the Bank of England showed the following figures:

Res. 1,124,529 Increase. 1,625,69 ther deposits. 2,245,04,797 Decrease. 1,625,69 ther deposits. 3,245,04,141 No securities. 25,35,344,614 No securities. 25,354,614 No securities. 25,35

MOUNT WILLY		No. 1.	No. 3
G. M. B., at Glasgow			48/0
Gartsherrie, at Glasgov			52/
Coltness.		59/6	53/
Summerlee, "		. 58/6	51/6
Langloan, "		61/6	53/6
		52/6	· · · · · · · · · · · · · · · · · · ·
Calder, "	********	58/6	50/6
Hengarnock, at Ardro	ssan	53/	50/
Eglinton, " "			48/
Daimellington. "		52/6	48/
hotts, at Leith		50/6	53/
Cinneil, at Bo'ness		50 6	49/6
arron, at Grangemout			50/6
The figures of Joh	n E. 8	wan &	Bros.
Limited, are in accor			

is steadily firm, but without especial feature to note. The mointh's shipments of pig are expected to reach over 80,000 tons, an excellent total for this late period of the year. The local works are all remarkably busy, especially plates, angles and bars. It is reported that an attempt is likely to be used to run gight works in consistent. made to run girder works in opposition to the Belgian products of that ilk, of which the use in this country has attained very large proportions. Current rates for Cleve-land G. M. B. Pig, net cash, f. o. b. makers'

wharves in Tees are :	At love L
No. 7 Foundry 46/	Mottled 40/6
3 4142/	Refined Metal 58/ Kentledge 4z/6
4 Forge 41/6	Kentledge 41/6

Heavy importations of Spanish ores continue to be made into the Tees, for the use of the blast furnaces and steel works, which are working up to the full limits of their respective capacities.

WEST COAST HEMATITES

appear to have been a trifle less firm during the week, and the nominal quotations have been a little subject to shading, but the movement is of no significance and purely temporary in its character and incidence. Second holders are said to be few in number and strong, so that makers have every reason to regard the future with confidence. Mixed parcels of Nos. 1, 2 and 3 may be quoted 60/ 601/ at the moment. Makers' prices (subject to concessions, probably, for large lots) are:

rargo rota, are.			
	No. s.	No. 9.	No. 3.
Cleator	66/	681	64/
Lonsdale	61/6	60/6	59/6
Workington	61/6	60/6	59/6
West Cumberland	61/6	60/6	59/6
Lowther		60/6	59/6
Moss Bay	6x/6	60'6	59/6
Distington	61/6	60/6	59/6
Harrington	62/6	60/6	59/6
8lway	61/6	60/6	59/6
Maryport	61/6	60/6	59/6
T 1.1 -1.1			6

trades, but it is favorable to hardwares in general, besides affording the farmers opportunities for work which can rarely be performed so late in the year. At Sheffield the cutlery and electroplate houses are making overtime, and briskness characterizes the majority of the trades of the town. At Birmingham business progresses favorably all round and prices are tending upward. Tin plates are if to 1/6 per box dearer, owing to the firmness in iron and the remarkable rise in tin, which is now quoted £110 for English ingots.

FOREIGN. PRANCE.

spounds and upward; old rails D. H., £4. 15/6 (£4. 7/6; old cast scrap, £2. 3/@ £2. 6/; £5. 12/6; rail crop ends, £3. 7/6 (£4. 7/6; old cast scrap, £2. 3/@ £2. 6/; £5. 12/6; rail crop ends, £3. 7/6 (£4. 10/5); tsteel rails purely nominal, as makers have a nothing to offer on prompts, and timplates firmer at 16/6 (£17/6 for cakes, and 19/6 (£17

BELGIUM.

(Revue Universile.)

BRUSBELS, Nov. 27, 1831.—Iron.—A good run of business can be reported from here; Merchant Iron is not obtainable under 13.50 francs, and Sheet Iron fetches 18.50 with ease. Fresh contracts for future delivery are making upon this basis, after considerable dealings thereat during the week. In Pig Iron, likewise, the movement begins to assume greater proportions: this relates to Foundry Pig in particular. Makers in Belgium receive orders of a satusfactory kind with the utmost regularity. Our Steel works are very busy, and so are the Structural Iron people. Pig Iron is bringing of rancs. Steel Rails cannot be had under 17, 50 per 100 klos, and at this figure they cannot be had readily, but the delivery, on the contrary, involves some considerable delay. Hoops and Axles sell at 22 23.50 francs. deliverable six months hence. On taking a general view of the Iron situation in this country, we may state that prices are, on the whole, held with great firmness throughout, for nearly everywhere makers have secured work for six months to come, a thing which has not been seen for a long time past. This is fortunate at a moment when the season is so far advanced into the usually dull winter spell. There is every likelihood that the price of Merchant Iron will soon advance to 14 francs, as a basis, in consequence of the almost certain ratification of the France-Belgian Treaty of Commerce, which favors he export of Iron and Steel into France from Belgium so very much, and promises great activity for the whole of next year, since French requirements will be greater than ever, and since it is an established fact that producers there are, and will be, unable to cope with the demand that is to be. Coal—is about as favorably situated as Iron among us; the wants are so great that miners find it difficult to attend to them fast enough, the more so as the rise in Germany increases the demand for the home product.

(Cologne Gazette.)

(Cologne Gazette.)

Drsseldoby, N.v., 28, 1381.—Iron.—At Dortmund the favorable position of Iron is fully maintained, but it is by no means sure that for the current year large dividends will be declared in the district and elsewhere in Germany; at least, only from such works can they be expected that are on a level with the requirements of modern Iron and Steel industry, and whose geographical situation is at the same time a not unfavorable one. But in spite of what drawbacks there may be, it cannot be denied that the commercial aspect in Germany is a decidedly encouraging one. For the first time since a lapse of years business among us rests on a solid basis, and the prospect is that this will last some considerable time, and, fortunately, in the Iron and Steel trades there are no spurious elements among us at present. The blast furnaces are all fully engaged in advance for the first quarter of 1382, and none are likely to make contracts beyond this, for till then things may change vastly. The fact is, Pig Iron production in the Dortmund district cannot, for the moment, cope with the demand; it is, therefore, more than likely that a few more furnaces will have to be blown in. No actual change in prices can be put on record for the week, but the tendency is decidedly upward. Without interruption orders are dropping in for Pig, Merchant, Rolled Wire and Sheets. Most of the rolling mills have sufficient work on hand to last them for a number of months. Prices are firm, but ought to be higher for most sorts, in order to be remunerative to at least a moderate degree. Most favorably situated work on hand to last them for a number or months. Prices are firm, but ought to be higher for most sorts, in order to be remunerative to at least a moderate degree. Most favorably situated of all the Bessemer Iron branch is. Adjudications for Steel Rails for domestic use follow each other in rapid succession, causing a notable rise in prices. Orders from abroad for Steel Rails and Blooms are even larger than for home use, but the prices are, of course, lower for these foreign requirements. Sufficiently and remuneratively busy are the boiler shops, foundries and machine shops. On the other hand, the Structural Iron concerns and bridge builders have, during the last three months, received comparatively few orders, and they therefore lack occupation. The Carand Locomotive works fare better in this respect, for at length steps are taken to increase the rolling stock. Axies are also more wanted. Coal is firm under a lively demand.

(Borsenhalls.)

Hamburg, Nov. 27, 1881.—Fron.—In Rhenish

per 50 kilos; ditto Sheets, 17.25 @ 27.50; German Pig, 15.30 @ 15.50, and Spanish, 18.20 @ 18.40. Copper—is unaitered: we quote: Drontheim. 69; Wallaroo, 70; Electrolytic N. A., 76, and Calumet and Hecla, 79 @ 80. Tin—Firm; Banca at 106 @ 108; Australian, 80 @ 106; English Common, 106 @ 108; ditto Redued, 108 @ 110. Spelter—Inactive at 17.25, nommally, spot and to arrive. At Breslau Godula, December—January delivery was paid 16.25 on 23 dinst., 16.50 on the 24th, and W. H., January, 17 marks.

(Koch & Vlierboom.)

ROTTERDAM, Nov. 22, 1881.—Tin.—There has been a steadily improving market, with heavy dealings. The quotation to-day is 65 guilders per 50 kilos. for Banca, and 64.50 @ 64.75 for Billiton.

EAST INDIES.

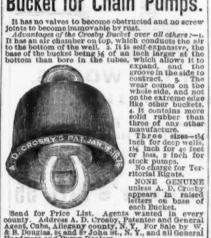
(Schmidt, Kustermann & Co.) (Schmidt, Kustermann & Co.)

Fenang, Oct. 25, 1881.—Thn.—There has been such a heavy rainfall in the prominent mining districts that receipts have become small. The market opened at \$20,20, then declined to \$20,250, \$20,20, but soon recovered to \$20,50, later on even reaching \$10,30 per picul. Since then some business has been transacted at \$10,20 @ \$30.20, winding up at \$30,15, nominally, without buyers at this. Receipts have been \$000 picules, of which Europeans took 2000 and Chinese 2500 picules. Stock, 1400 picules. Exchange was weakening, but finally recovered to 3/9/4 for 4 months' bank.

Posts for Barbed Wire Fences .- A Western exchange says: To render barbed wire a complete success it will soon be necessary to find some substitute for the common wooden post. The kinds of wood that are suitable for fence-posts are somethat are suitable for fence-posts are some-what rare, and are becoming scarcer every year. Cedar is the favorite wood, but the demand for it for other purposes is rapidly increasing, while nothing is being done to increase the supply. Cedar trees are of very slow growth, and it appears to be im-practicable to raise them for industrial pur-poses. Cedar is now in active demand for taying blocks telegraph poles or amountal poses. Cedar is now in active demand for paving blocks, telegraph poles, ornamental ware, and various other purposes. The attempt has been repeatedly made to use living trees for supports for wire employed in the construction of fence, but in the majority of instances it has been unsuccessful. The trees are not in the line where the fence is required and it is the work of many years. The trees are not in the line where the fence is required, and it is the work of many years to produce them. The wire soon becomes imbedded in the wood and rusts. Posts made of clay burned like bricks, and of concrete, have been used to some extent, and have been quite successful. They are, however, heavy to transport, liable to be broken, hard to set in the ground, and easy to be lifted by frost. Stone posts are open to all these objections, but they may be used to advantage in many places where stone to all these objections, but they may be used to advantage in many places where stone easy to split is found in the vicinity. Stone posts have been used for a century in some of the Eastern States. A hole is made to hold a nuil or staple, and is closed by the use of lead or sulphur. The most promising material for posts for supporting barbed wire appears to be wrought iron. It is strong, cheap to handle and easily shaped into any form desired. By cutting slots in one side the wires may be fastened in them and the use of staples obviated.

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Bucket for Chain Pumps.



THE HARTFORD COMPRESSED AIR PUMP Water Driven to any Hight and Distance by Compressed Air.

Country Houses Supplied Cheaply and Certainly for Eath Rooms, Water Closets, Hot and Cold Water Faucets, &c. Plenty of Fresh Water for Stock on Farms. The best Pump for Irrigating, supplying Railroad tanks, and for Mining purposes. For Circu lar and Price list address, EZRA HROOKS, Secty and General Manager of The Hartford Compressed Air Pump Co., Hartford, Conn., U.S.A.



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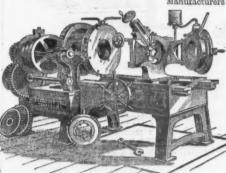
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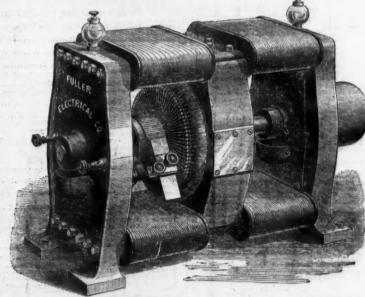
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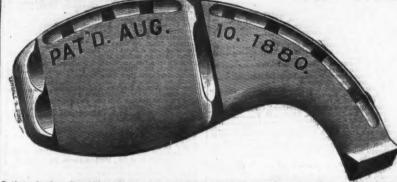
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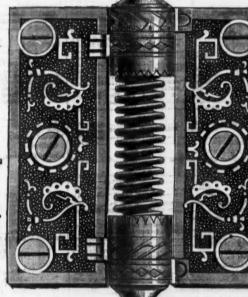
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ADJUSTABLE. This cut is regular size

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Shows a light 100 feet ahead of the horses. The best Lamp to stand wind, rain or jolting, and burn brilliantly. For Descriptive

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New York Wholesale Prices, December 14, 1881.

HARDWARE.	Butts Wrought Breas
A nvila. American > 2 200 dis	Wrought Brass dis 75 Cast Brass, Tiebout's dis 30 20 5 Corbin's dis 20&20
Wright's	1340 Fast Joint, Narrow
Trenton	% of the following state of the following sta
Anvil. Vise and Drill.	Parliament Butts dis 50870 Mayer's Hinges. dis 55870
Augers and Bits. ('oun. Valley Mfg. Co	Loose Fin, ne Acorn dis 50%10 "Acorns. dis 45&10 "Japanned dis 55&10
C. E Jennings & Co	20 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
lves. from list Jan 7. 18	80 " Lt. Narrow
Nobles Mfg. Co. Watrous & Co., Fxtension Lip dis	Loose Joint. Broad
Suell Mrg. Co.'s C. S. Augers dis dis dis dis dis dis dis dis dis di	niside Pind, Contain dis 45&10
Jenning's Bits. dis	Spring Hinges: American Spiral Spring Butt Co., Jap'ddis 25
Russell Jennings' Auger, Dowel, Machine- Dowel and Hand-Rail Bits	Fast Joint Narrew
Russell Jennings' Car and Machine Bits, Soring- Machine and Millwrights' Augers dis 1 & 10 & 10 & 10 & 10 & 10 & 10 & 10 &	Geer's Spring and Blank Butts
Interest Jenaings "Bits Gaster Andrews Bits Glass Gaster Andrews Bits Gaster Ga	Union Spring Hinge Co.'s
Expansive bits, clark s, shart, sicinge	Union Mrg. Co
Hoft w Augers Ives'. Swift & Co dis 15&1	Simd Butts, Parkel dis 45&10 5
"Bonnev's Adjust W doz \$48—dis 35&1 Stearns' Adjust W doz \$48—dis 20&1 Ives' Expunsive cach \$4.50—dis 20&1	Nos. 1 & 2
Universal Expansive, ca \$4.50—dis 2 Woods	Luli & Porter dia 66% 200 8
Universal Expansive, 6a \$4.50—dls 2 dls 2 Gimlet Bits. Diamond. Bee". Bee". Ct. Valley Mig. Co., dls 3, 5c. Pouble Cut Gimlet Eits, Shepardson's dls 4 "Hartvell's dis 65c. "Douglass' dls 6 "Douglass' dls 6 "Uves" dls 65c. "Ives" d	Nicholson
Ct. Valley Mig. Codis 30&10 "Ct. Valley Mig. Codis 30&10 Hartwell's	Reading's Gravity
Wo se's Bit Stock Drill	200, 3 How Pine.
Wut. ous Ship Augersdis 11 Aw! Haits. Bewing Brass Ferrule\$3.50 ¥ gross—dis 40&10	### Botchkiss'
Brass Ferrule3-50 # gross—dis 40&rd	
## 15-50 ## 168 40&10 ## 5-50 ## 168 40&10 Patent Sewing, Short. ## 21.00 ## 608—418 40&10 Long. ## 21.00 ## 27.00 ## 27.00 Patent Peg Plain Top. #\$10.00 ## 27.00 ## 27.00 Leather Top. #\$2.00 ## 27.00 ## 2	Bradloy's:
A wile, Brad Setes, &c. A wile, Sewing, Common. # gross \$1.70—dis 2,45—dis 2,45 of shouldered Peg. # gross 2,45—dis 2,45 of shouldered Peg. # gross 5,3—dis 2,5&10 Patert Peg # gross 5,3—dis 2,5&10 is nouldered Brad. # gross \$2,70—dis 2,5&10 Handled Brad. # gross \$2,70—dis 2,5&10 Handled Scratch. \$7,00 # gross—dis 2,2&10 * Socket Scratch. \$7,00 # gross—dis 2,2&10 * Socket Scratch. # dos \$17,00—dis 4,6&10 Brad Sets, Alken's. # dos \$17,00—dis 4,6&10 Stanloy's Excelsior, No. 1, \$9,00. dis 3,0&10 * Stanloy's Excelsior, No. 1, \$9,00. dis 3,0&10 * No. 2, 4,60. dis 3,0&10 * No. 3, 7,80. dis 3,0&10	\$16.50 10.00 21.40 24.00 27.00 30.00 33.50 38.50 (In Openers.
Patent Peg	Can Openers. # dos \$3.00. dls 25 5 Messenger's Comet. # gross \$7.40. dls 10 5 Duplex # dos 240. dls 1020 5
Shouldered Brad \$ gross \$2.70—dis 25&10 Findled Brad \$7.00 \$ gross—dis 25&10	Lyman's
" Socket Scratch. \$1.00\$1.25 \ doz_nc Brad Sets, Aiken's. \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	t Eureka. # doz \$2.50, dis 10 \$ \$ Sardine Scissors # doz \$7.00, dis 55 \$ \$ Ster # doz \$2.50, dis 25 \$ \$ Ster # doz \$2.50, dis 25 \$
Staniey's Excelsior, No. 1, \$9,50dis 30&10	Marcican
A Nes.	Universal
A xes. Single Bit 4% to 5% and under. 46 to 5 and over. 46 to 5 and over. 46 to 5 and over. 47 dos \$10.50 in beveled. 48 to 6 and over. 49 to 6 and over. 49 to 6 and over. 40 to \$20.00 in Beveled. 41.00 Axio Gresso. 42 to 6 and over. 43 to 6 and over. 44 to 820.00 in Beveled. 45 to 6 and over. 46 to 820.00 in Beveled. 47 to 6 and over. 48 to 6 and over. 49 to 6 and over. 49 to 6 and over. 40 to 820.00 in Beveled. 40 to 820.00 in Bevled. 40	T. L. ground
Beveled	** Double W. proof, \$1.40 \ 10.65; \% G. D. & S. B
Axles—Standard list	Colt's Pistol, 700 10 \$ F. L. 500 dis 100 E. B. 1-10, Trimmed 500 dis 100
Contances.	Musket, in 1-10 s
Batis	Central Fire
White Metal	Cards.—Morse and currynew list, July, St., dis 10 \$ Cotton
Gong, Abbe's dis 20&10 Yankee dis 20&10	Cast Steel, Polished dos \$5.00, dis 30 %
Crank Taylor's	Casters. Bed
Connel's. dis 357 Lever, Sargent's. dis 55&10 Taytor's Bronze or Plated Lever. ne	Bed
# Japanned Lever	Cattle Leaders- Humason. Beckley & Co.'s
Pull. Brook'sdis 50&10&2 Western	('hasn. Trace, 614-1-2
Cow, Common Wrought	Trace, 0½-1-3.
Kentucky 'Star'	Covert Haiter, Hitching and Breast dis 35% Oneida Haiter Chain (old list) dis 40 % Galvanized Fump Chain by 5 9/46 net
07.0 1 1% 2 3 4 5 6 Hog dis 50 8 \$12.00 10.00 9.00 8.00 6.00 5.00 3.50 3.50 5.00, Texas "Star"	Chair.
Bletismiths, Common dis 45 % Bletismiths, Common dis 25 % Extra and Pittsburgh Pattern dis 25 % Moulders dis 25 % Hand Bellows dis 25 % Heiting. Rubber.	Chait. White. Red. Hue By gross fee net Hue Grayons. Gross ree net Grayons. Gross ree net Grayons. Gross ree net Grayons.
Moulders dis 25 %	White Crayons T gross 190 net
h v meinng and Packing Co	Socket Framing, Crossman
Bit Holders.	" " Merril
Blind AdjustersDomestic & doz \$2.00, dis 14 %	" Buck Bros 1926 list, dis 22165
Blind Fasteners. Der dos. pairs, \$1.00. dis 10%	* Witherby Tool Co
Van Saud'sScrew pattern, per gro., \$10.00 dis 35 g old pattern	Fanged Firmers extra
Mackrell's	" Buck Bros. (Shank)
Excelsior doz staco, dis soctock z Hind Fasteners Der doz pairs, \$1.00. dis 105 Van Sand Screw pattern, per gro. \$1.00. dis 105 Van Sand Screw pattern, per gro. \$1.00. dis 105 Van Sand Screw pattern, per gro. \$1.00. dis 105 Washburn's Patent \$2.00 gross \$1.00 net Merriman's Patent \$2.00 gross \$1.00 net Merriman's Patent \$2.00 gross \$1.00 net Merchis \$2.00 gross \$1.00 net Mina Stapies \$2.00 gross \$2.00 net Mina Stapies \$2.00 net	Camps. C
Officential Pulley Blocksdis 20 \$ 'nfield Block Co., Rope and Iron Strap'ddis 40 \$ ""Wrot. Iron Com. bushed.dis 25 \$	" Snow's dis 4055% " Hammer's dis 15 % Stearns' dis 20210 %
" " " " all steel roll'f. dis 10 % tanley R. & L. Co., Rope and Iron Strap'ddls 40&10 %	" Carriage Makers', Sargent's dis 65216 % " Curd and Tape (T. & S. Mig. Co.) dis 30 %
Bolts. Cast Iron Barrel, Shutter, &c	Cockeyes Cocks Brass Co. C
ves' Pat. Door Bolts	Coal Hods. dis 3316 %
Soutter, all Iron. Stanley's list	Cockeyes. dis 35210 %
" Sunk Flush, Sargent's dis 65&16 &10 % " Stanley's dis 40&10 % " B. K. Flush. Com'n. Stanley's	Glooe
Carriage and Tire. Common	Cockey, Brass. tacking new list, July 10, '80 glooe" Plain Bibbs" to Gree Mills. Coffee Mills. Wilson's
nion Carriage	Selsor's Pat. American (Enterprise Mfg. Co.). dis 25 % French Steel. dis 25 % French Steel. dis 25 % The "Swift" (Lane Bros.). dis 35 % Combined Dinuer Fail and Lanterns
" Bay State"	The "Swift" (Lane Bros.)
R. B. & W	Per doz śr.co. dis 30% D Compasses, Dividers, &c. dis 55% Calibers dis 55%
Eanley R. & L. Co, Hope and from Strap's dis 50&10 % 2 ast Iron Barrel, Shutter, &c	Calibers
of Engs. dis 60 s Horing Machines. Upright. Angular. Frat quality, no Augers. 34.50 hilips with Augers. 7.60 prining & Co., no Augurs. 5.40 Hoxes. 6.75 dis 40 % Hoxes.	Compasses & Calipersdis 50&5% Wing & Inside or Outside.dis 50&5% F Call's Fat. Insidedis 50%
hillips with Augers	Exceisior
Horses, discount of the Boxes	Bradley's
ilson Mfg. Codis 10 %	Corn Knives and Cutters.—Bradley'sdis to %
ommon Baii (American)	Cast Steel.
makers Impd	Curing rongs. 40. 40. 40. 41. 10. 10. 10. 10. 10. 10. 10. 10. 10. 1
terchanceable Shelf Boxos dis 25 straces. S. Backus dis 50 straces. S. Backus dis 40 straces. S. Backus dis 40 straces. S. Backus dis 40 straces. S. Backus dis 50 straces. S. Ba	Pinching Irons W dos 7.50, dis 20 5 Curry Combs.
Bright Wire Goods list of Dec.15, 879, dis 55&10 %	Hotohise Noveitynew list, July, 1830, dis 25 % Y Excir. Supr. Champion
Wull tings.—Union But Co. dis 45 % rgent's dis come a conkiss. dis come a conkiss. dis come a sumascu, Bookley & Co. s. dis 60 %	Ourtain Pine Silvered Glass
and an amount on an an interest territories and by	White Enamel White Enamel

Whol	esale Prices, L	
MD	Outlery 75 % Meriden Cutlery Co. (Table)	net
(110 20)	TO SELECTION OF THE PROPERTY O	316 % net 25 %
	Deg Cellura dis di	20 % 40 % 40 %
	Celluloid	10 %
dls 458	10 % Gray's " % dos \$1.70.	net net 10 %
RON	10 \$ No. 2, Medium, "	ie %
dis 45&	Mar(Coll)—For Cop'd, Nickel-Plated, &c. see list, Ne. 4, ("Snoo fiy") Screen door size # dos \$1.50 No. 5, Screen Door Size	10 %
dis 45& dis 45& dis 50& dis 45&	10 % No. 7. Large	30 %
	Babin's Crown, Goz 82,75, dis 1 Philadelphia Gin. \$5.00; 8 in., \$7.5 dis 25 Barker's Concealed Gis 20 Cowell's No. 1, \$18.00; No. 2, \$15.00 \$ doz, dis 20 Cowell's No. 2, \$18.00; No. 2, \$15.00 \$ doz, dis 20 Cowell's No. 2	50 % 35 % 30 %
Co. Jap'd. dis Fancy dis anned. dis amental dis smental dis s. dis gc. dis qd. dis ntal dis dis dis dis	Rubber, complete	20%
eddis ntaldis	Arlington Edge Tool Co. dis 65&x Crossman's No. 1 dis 65&x Merrill dis 6&x	5%
dis	Adjustable Handledis 2	5%
dis 45&:dis 45&:dis 45&:	Drills and Drill Stocks.	0%
eless," Nos.	Blacksmiths Seif Feedingeach \$7.50, dis 2	0 %
dis 66%&:1	Wiscows dis 2 Frenst, Wilson's dis 2 Miller's Fails each \$3.00, dis 2	
dis 50 dis 50 dis 7 dis 50 dis 50 dis 50 dis 70 dis 50 dis 70 dis 70 dis 70 dis 60 dis	HotchElls Glis 2	5%
ge, Nos. o, 1, 116, 2,	Whitney's dls ac	5%
ana \$27.40, dis 50821	Wilson's Drill Stocks. dis 2c 2 Automatic Boring Tools	5 %
1-37515	Danbury	%
dis 2 dis 2 dis 25&0 7 8 30,00 33,50 36,00	Egr Bearers \$\psi\$ dos. \$2.50 dis 2 Dover \$\psi\$ dos. \$2.50 dis 2 Acme \$\psi\$ per gross, dis 23\f3.6210 Standard \$\psi\$ per gross, dis 23\f3.6210 National \$\psi\$ dos \$4.50, dis 23\f3.6210 Family per gross \$21; per dos., \$2.100	R MM
W dos \$3.00. dis 20. W gross \$7.50. dis 10	Family	
by downer dia secon	Mill E. Buckets, light, 314 to 10 in. (Duc's Improved	d)
# doz \$3.75. dls 26 # doz \$2.25, dls 55 # gross \$7.50 dls 10 # doz \$2.00, dls 10 # doz \$5.00, dls 10 # doz \$5.00, dls 20	# doz \$1,60@ \$10,20 dis. 10	MM
doz \$5.00, dis 2000 25 dis 75 6.10 \$12; No. 2, \$24; No. dis 50	Emery and Emery Paper. \$\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	ic ic
# dox #3.00, dis 35	Large size, \$76; Hedium, \$10.50 per ream; dis 15 Enameled and Tinned Ware.	76
	Kettles dla 45 Sauce Pans dla 30 Tinned Sauce Pans dla 30	MMM
	Recutcheen Pins. Brass	2
650 dis 10 700 5	Enumeled and Tinned Ware. kettles	a l
Het July 28 die 10	Faucets. dis 40- Bohren's Pat. Rubber Ball. dis 25-	S E
"dis to	Lane's (Self Measuring). W dos., \$36.00, dis. 22, Stardis. 55&10	S I
\$\psi\$ dos \$5.00, dis 30 \$\psi\$ dos \$2.00, dis 45 dis 25	Frary's Fatent Petroleum. dis 20&10	N W. W. C.
dis 35&20 dis 35&20 dis 25&10	Cork Lined# dos, \$36.00 dis 50 in the control of the cort of	200
dia 6s	Files.	HOOM
dis 60@10	E. M. Boynton'snew list, dis 25	7
. * pair 790 } . * pair 700 } . * pair 860 }	Johnson & Bro. dis 30 stucher's. 4.50 to 2 Walter Spoker & Co.'s "Diamond" 4.50 to 2	M E
dis coero i st dis 351 dis 40 dis 951 dis 60 dis 60 dis 60 dis 50 dis 50	Fisher's	000
	Reper Bros. Horse Rasps	CBB
·····································	Fluting Machines. Enox. 3%-inch Rolls	C
		H
Cool Codia 65&10 5	Engie, 354-inch Roll. \$2.15, dis 25 % "64" \$3.55, dis 25 % Crown .454 in. \$3.40:6-in., \$4.00:6-in. \$6.50 each dis 25 \$ Crown .454 in. \$3.40:6-in., \$4.00:6-in. \$6.50 each dis 25 \$ Crown .56 in., \$3.50 in. \$3.40 ; 7 in., \$4.50 each dis 25 \$ American, \$1n., \$3.50 in. \$3.40 ; 7 in., \$4.50 each dis 25 \$ Domestic Fluter. \$1.50 ; 10.50 ; \$4.50 each dis 25 \$ Crown riand Fluter, Nos. I, \$1.500; 2, \$1.50; 3, \$10.00 \$ 4 dos. dis 33½ \$ Shepard Hand Fluter. \$1.50 ; \$0.50 ; \$0.50 ; \$0.50 \$ "1 No. 70, \$1.200; No. 60, \$8.00 ; no. 10, \$7.00; \$ "1 No. 70, \$1.200; No. 60, \$8.00 ; no. 10, \$7.00; \$ Clark's Hand Fluter. \$4.00 \$81.500 dis 33½ \$ Buffalo. \$4.00 \$8.00 ; No. 10, \$1.00 \$ Buffalo. \$4.00 \$8.00 ; No. 00 \$1.500 \$ Buffalo. \$4.00 \$8.00 \$ Buffalo. \$4.00 \$ Buffalo.	T
dis 65&10 % dis 65&10 % dis 65&10 %	Geneva Hand Fluter, White Metal. F doz \$12, dis 25 % Crown siand Fluter, Nos. 1, \$15.00; 2, \$12.50; 3, \$10.00 \$4 doz.	W G:
. 1976 list. dis 22/4%	Shepard Hand Fluter	H
dis 64&10 %dis 40 %	Combined Fluter and Sad from W dos 15,00, dis 33 % Buffalo. W dos 10,00, dis 10 %	Ai
)5.25 to £	Fiv Teans.	Pi
rondis 25 % dis 20 % dis 20 % dis 40&5 %	Faragonper doz, \$3; pet	GI A. Ci
dis 20 % dis 40&5 % dis 40&5 % dis 15 % dis 20 % dis 50 % dis 60 % 10 % dis 60 & 10 % dis 60 & 10 %	Hay, Manure and Spyling dis to 5 Prated" A 1, Rogers & Fro. dis 40858; \$ " Reed & Barton. dis 40858; \$	R
	Fruit and Jelly Presses. Enterprise Mfg. Co	Du
dis 40&5 %	Fry Pans.	Na No W
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10, '80 dis 40 %	C4	Ice
dls 45 ¶	Clanges dis 50&10 \$ Miarking Stanley's dis 50&10 \$ Chapin's dis 50&10 \$ Wire dis 10&10 \$ Disston's dis 20 \$ Glimies dis 20 \$	Co.
\$9.50, \$10.50, dis 24 %	Cimiets Nail and Spike	Bra
dis 25 % dis 30 % Lantern. dis 30 %	Nail and Spike. dis 45 5 "Bee" Gimlets. \$\pi \text{gross} \$\text{\$\tex{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$	An
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₩ D 8140	Halters. 4.90 dis 50% Horse and Cattle Ties, Covert's	L
dis 10 % dos \$3.65, dis 10 % dos 7.50, dis 20 %	- ammers.	Tul
July, 1880, dis 50 % July, 1880, dis 25 % dis 25 %	Hartford Rammer Co. (new list July s. '81)dis 20 % Humason & Beckleydis 50 %	Na
dis 25&10 %	magnetic Tack, Nos. 1, 2, 3, \$1.25, 1.50 and 1.75.dis 25&10%	Hu

OTHO	. 6
Hand Cuffs and Leg Irons. Providence Tool Co. : Hand Cuffs, \$15.00 \(\pi \) don \(\) i eg Irons, \$25 \(\pi \) dos \(\) 5 Tower's.	dis 10 % dis 25 %
ALCHIELDS NOOT OF THEIR OF TWO ORCS	
mo Plate, \$1.10 Barn Door	ils 10 % T
to Flush Chest. diss Lifting Saw and Plane diss Boynton's Pat. Loop Saw Handles diss "Centennial Saw Handles Hammer and Hatchest."	55&10 % 81 50&10 % 81 40&10 % M 118 25 % W
Brad Awl. Hickory Firmer Chisei, assorted, w gross \$1.50 Hickory Firmer Chisei, assorted, w gross \$1.50 large, 5.00 Apple " assorted, 5.00 assorted, 5.	118 20 % 10&10 % C
Boynon's rat. Loop's Windless. Hammer and Hatonet. Hammer and Hatonet. Hand Awl and Hatonet. Hickory Firmer Chiesi, assorted, wross \$1.00 dis in the control of the con	OCTO TI
Patent Auger, Ives	25, net Y: 1, net "1 0\$10 \$ F.
Hangers. dis 6	18 50 % Br
Kidder's disco U.S. 4in., \$12; 5in., \$15; d. The "Boss" dis. 5. Harness Snaps.	& 10 % Hu
Harness Snaps. Henshaw's. List of 1½ changed to 14 co, dis 55	tos tos tos ses
"German di di Covert di di di Covered Spring dia 4 Harch ets. Isalah Blood di	8 75 % & 10 % & 10 %
Shingling, Nos. 1 2 3 @ doz \$7.25 \$8.00 \$Claw, Nos. 1 2 3 @ dog 7.75 8.50	3.75 9.25 8.50 Per
Lathing, Nos. 1 2 3	9.25 Mil 9.00 Per
Shinging, Nos. 1 2 3 @ doz \$7.53 \$8.00 \$ Claw. Nos. 1 2 3 @ doz 8.25 8.75	0.00 Wo 0.00 Hal 8.50 Hal 0.25 Dra
Lathing Nos. 94 doz 7.59 &co Simmon*	Am 0,00 0,00 0,00 Kie
Nos. 50 7 8. % doz 15.00 18.00 20.00 21 Collins	ros Bee
10T lentening!	IVI
N. E. Reversible	TO S COW
" Common Sõhse dis 200 " Seymour's dis 50 Shepard's Nos. 10, 20 & 24, 418 5 & Rolled Blind Hinges dis 600 Rolled Blind Hinges dis 600	to % Charles Bush
Wadaworth s	10 % 10 % 10 % 10 % 10 % 10 % 10 % 10 %
Heavy Welded Hook \$1 to 12 lin. \$7.00 \times 100 \times \text{dis.} \\ \begin{pmatrix} 14 \times \text{in.} & \text{sup.} & \times 0.00 \times 100 \times \text{dis.} \\ \begin{pmatrix} 24 & \text{in.} & \text{go} \\ \text{Screw Hook and Eye} & & \text{gin.} \\ \begin{pmatrix} 34 \text{in.} & \text{go} \\ \text{gin.} & \text{in.} \\ \text{gin.} & \text{in.} & \text{go} \\ \text{gin.} & \text{in.} & \text{go} \\ \text{gin.} & \text{in.} & \text{go} \\ \text{go} & \text{go} & \text{go} \\ \text{go} & \text{go} & \text{go} & \text{go} & \text{go} \\ \text{go} & \text{go} & \text{go} & \text{go} & \text{go} \\ \text{go} & \text{go} & \text{go} & \text{go} & \text{go} & \text{go} \\ \text{go} & \text{go} & \text{go} & \text{go} & \text{go} & \text{go} \\ \text{go} & \text{go} \\ \text{go} & \text{go} \\ \text{go} & \text{go} \\ \text{go} & \text	dis Hexa
Wrought Strap and T. list Dec. 20, '77 dis 45 kino Hees.—Riveted Shank. -per doz, \$4,00; dis Socket \$\frac{\pi}{2}\$ doz \$8.25, dis Grub dis Hanters dis	Table Rlak
Planters. dis 202 Scovill Pattern, Handled dis 202 Scovill Pattern, Handled dis 202 Scovill Pattern, Handled dis 202 Hick's Pat, Solid C. S. Flanters. dis 202 of 202 Winsted & Lane, Planters dis 202 Magic Bervill Pattern dis 202 Magic Bervill Pattern dis 202 Handle Bervill Pattern dis	35 % U. B. 10 % Nav 25 % 30 % Bras
Winsted & Lane, Finnters. dis 'Scovill Pattern dis 200 Magic	25 % Malic Prior net Olms
Hooks.	Brou So % 3c % Del Del
Cotton (Humason & Beckley Mfg. Co.)	Dixol Dixol Dixol Pa
Harness, Reading list. dis 30&: Coat and Hat, Sargeou's lists discoard Reading Reading list lists discoard Picture Hooks, Brown's Pat Solid Brass, \$4 per gross. discoard Wrought Staples and Hooks and Staples, discoard	Pa N. Y. OS Pic OS Brass
Tassel (T. & S. Mg. Co.). Wrought Staples and Hooks and staples, dis 60念天然. Staples, Stanley's list	
HOISE MALLS	Magic Astor Crow
Clinton, 230 210 200 100 18c dls 3 Essex, 310 280 260 250 240 23c dls 3 Putham, 310 280 260 250 240 23c dls 108:	Mould Roller
Fulcan, " 280 240 230 220 210 200 dls n 110be, " 280 240 230 222 210 200 dls n A. C., " 270 250 230 222 210 200 dls n 1h'inpl'in	Bailey
A. C., 270 250 250 220 210 210dia z. Forged	
Ce Awis, Chisels, &. American fee Chisel	et Button Hall's 5 in.
Ce Avis, Chisels, &c. American Ice Chisel	Huma Gas Pl Eurek Russe et P.S. &
" Pick in Handle % doz 2.co n ce Axes, Small, Cast or Malleable % doz 1.20 dis ro litchen lee Tongs % doz 2.27 nombination lee Tools % doz 8200 n	et Plui et Dissto Stanie
Brass, 7 to 13 inches inclusive # 5 300 n rass larger than 13 inches # 5 350 n mameled	et Chapin
Knives. dis 20 mee's Hutcher Knives dis 21 mee's Hutcher Knives dis 25 mee's Hutcher Knives dis 25 mee's Horan's Shoe and Bread Knives dis 25 mee's Horan's Shoe and Bread Knives dis 25 mee's Horan's Madswortn's dis 25 mee's Horan's Horan's See Outlet	Poeked Davis' Rest Rest Rest Rest Rest Rest Rest Rest
arriage (Jap'd Soc. W gross)	6 in.
oor, Mineral "Por Jap'd "Plated "Por "Por	Disstor
Gemacte Door Knobs	Pruning Pull Hot Hot Hot Hot Brass S Jap'd S Jap'd S
Melting—Sargent's	at 11 (
Lanterns. No. c. \$8.65; No. 1, \$10.15 } ne abular. With Guards 350 extra. } ne all City No. 1, per dos., \$10; No. 2, \$5, ne eteor. No. 1, per dos., \$5,55; No. 2, \$3, 60.	1

	And was divine and the same	1.54.54.5.4.5	
die 75	Cutlery Meriden Cutlery Co. (Table)net	Hand Cuffs and Leg Irons. Providence Tool Co. : Hand Cuffs. \$15.00 @ doz }	De Beque
dis 30	Am. Miller Bro,'s Cutlery Co	Providence Tool Co. : Hand Cuffs, \$15.00 \(\Phi\) dis 10 \(\tilde{\pi}\) Tower's	Convex Reflector
dis 40&10dis 40&10dis 50&10dis 50&10	Aaron Burkinshaw's Pocket	Handles.—Door or Taumb Latches.—	list.
dls 50&10	Deg Cellars	Per doz So. 80 1.00 1.18 1.35 1.50 dia 60&10 % Roggin's Latches per doz 250@40c net	Porcelain Lined # don \$6.50—dis 50 % Wood # doz \$3.00—dis 30 %
cornsdis 50810	Celluloid dis 40 %	Bronzed from Drop Latches & doz \$0.00 @ 1.10 dis 10 % Jap'd Store Door Handles—Nuts. \$1.35. Plate \$2.00 no Plate \$1.10	Duniap's Improved
(118 Gario Gila Sederio Gila Sederio	g Forrey's Rod	Grudage Chees	Jennings "Star"
lated Tipsdis 55&10	Forrey's Hod.	Flush Chest. dis 5-& 10 g Lifting. dis 5-& 10 g	Lermon Squeezers Lermon Squeezers
IBON dis 45&10	No. 1, Large, Japanned		Mason's Linen
dis 45&10	No. 2. Small. "Ados 2.00 1 25010 % War (2011)—For Cop'd, Nickel-Plated, &c. see list.	Hammer and Hatenet	Locks and Latches. Cabinet -Eagle) Changes made in list price of
dis 45&10	No. 6, Screen Door Size	Apple " 4 assorted, # gross \$4.50 assorted, # 5.00 assorted, # 5.00	Bridgeport.) dis 25&2 % P. & F. Corbin dis 60 %
	No. 7. Large	Socket " large, " 6.00 dis	A. E. Deitz
	Sabin's Crown,	File, assorted, \$\Pigross \cdots 2.75 \ 25@10 \ Auger, assorted, \$\Pigross \cdots \cdot \cdots \cdot	Round Key, No. 1 to 5
Co., Jap'ddis 25 9 Fancydis 20 9 panneddis 20 9 namentaldis 20 9 ttsdis 25 9	Warner's	Struck Chest	Wire Clothes Galvanized
ttsdis 25 5	Drawing Knives.	Hangers.	"Shepardson" or "U. S."dis 35 % "Fofter" or "American"dis 32/ %
ingdis 35 5 neddis 25 5 entaldis 20 5 dis 25 5	Arlington Edge Tool Codis 65&10 % Crossman's No. 1	Barn Door, old patterns	F. Many's 'Extension Cylinder''\$10.50 # dos, n st
dis 25 5	Nobles Mrg. Co dia 15 % Bradley's dis 35 %	Climax (Anti-Friction) dis 50 %	Nonwolk
dis 2\ 5 dis 2\ 7 dis 2\ 7 dis 2\ 7 dis 2\ 7 dis 45&1c 5	Drawing Balaves Arlington Edge Tool Co. dis 65&10 5	Hangers	Notwick
ple Locking "	Oritis and Oriti Stocks.	Harness Snaps.	Reading Hardware Co Trenton Lock Co
	Discharatha Rolf Pending and Page die se f	#Harness Snaps. Henshaw'sList of 1½ changed to 1½ 0, dis 5; & 10 5 Judd's **Fitch's (Bristol)	Rading Hardware Co Trenton Lock Co Trenton Lock Co Hardware Co "Win, Whooke Co "Yale Lock Mig. Co.'s "Standa" dis 40 % "Win, Whooke Co "Conestogs dis 60 % "J. H. new Illiams dis 60 % "J. H. Dietz dis 35 % "Star" dis 35 % "Star" dis 55 % Lustro.—4-0z. bottles, per doz, \$2 ; per gro, \$18; net
seless," Nos	Hotchkiss	Hotchkiss' dis 10 %	"Yale Lock Mfg. Co.'s "Standard"dis 40 % Romer's
40, 45 and 50dls 70 %	" Harthelomew'seach \$2.50 dis 25 %	German	" J. H. McWilliams
	Tingersoll's dis 25 % Whitney's dis 20 %	fintch ets.	Lustro4-oz. bottles, per doz, \$2 : per gro, \$18: net
dis 60&10 %	" Weston's	Shingling Nos 1 2 2 30 doz 82 25 68 co 69 25	THE BLIEFES - PLICEOFY CIB 10210 %
dis 25 %	Hotchkiss	Hunt's	Meat Outters., Nos. 1
70 And \$21.40. dis 608210 \$	Drill Chucks.—Morse's Beach Patent dis 30 % "Adjusteach \$10.00c, dis30 % Danbury\$2,00, dis 30 %	Claw, Nos. 1 2 3 7 dos 7.75 8.50 9.25 1 dos 7.50 8.25 9.00 Hurd's	Miles' ChallengeNos. 1 2 3 30.00 40.00—dis 35 %
dls 20 %dls 25 %dls 25 % 5	Egs Benters	Shingling, Nos. 2 3	Each\$3.00 4.00 5.00 11.00 13.00 36.00—dis 30 Woodrun's (P. S. & W.)NCS. 100
0 7 8 0 7 8 0 30.00 33.50 38.50	Acme. \$20 per gross, dis 33\/4\%210 \% Standard \$24 per gross, dis 33\/5\% National \$40 per gross, dis 33\/5\% Family per gross \$21; per doz., \$2 net	Yerkes & Plumb	Hales'Nos. 11 12 13 14 doz. 627.00 33.00 45.00. dis 30 %
W dos \$3.00. dls 25 %	Familyper gross \$21; per doz., \$2 net	Coveret Covered Spring	High may it is High may it
# gross \$7.50. dis 10 % . # doz 25c. dis 15@20 %	Mill E. Buckets, light, 3% to 10 in. (Duc's Improved)	Claw, Nos. 123 d doz 37.50 \$8.00 \$8.50 \$9.00 Claw, Nos. 123 dos 9.00 9.50 10.00 Lating, Nos. 123 dos 8.00 8.00 8.00	Nos 1 3 4 B 5 S S S S S S S S S S S S S S S S S S
% doz \$3.75, dis 20 \$ % doz \$2.25, dis 55 \$ % gross \$7.50 dis 10 \$ % doz \$2.50, dis 10 \$	Mill F. Huckets, light, 2½ to 10 in. (Duc's Improved) Will E. Buckets, heavy, 5to 10 inches (Duc's Improved) Will E. Buckets, heavy, 5to 10 inches (Duc's Improved) Will E. Buckets, heavy, 5to 10 inches (Duc's Improved) Will E. Buckets, heavy, 5to 10 inches (Duc's Improved) Will E. Buckets, heavy, 5to 10 inches (Duc's Improved) Will E. Buckets, heavy, 5to 10 inches (Duc's Improved) Will E. Buckets, heavy, 5to 10 inches (Duc's Improved) Will E. Buckets, heavy, 5to 10 inches (Duc's Improved) Will E. Buckets, heavy, 5to 10 inches (Duc's Improved) Will E. Buckets, heavy, 5to 10 inches (Duc's Improved) Will E. Buckets, heavy, 5to 10 inches (Duc's Improved) Will E. Buckets, heavy, 5to 10 inches (Duc's Improved) Will E. Buckets, heavy, 5to 10 inches (Duc's Improved)	Broad, Nos. 1 2 3 4 % dos 9.00 10.00 12.00 14.00 Nos. 5 6 7 8 % dos 10.00 16.00 20.00 22.00 8	" Gem
B dos sem dia anyone 4	Emery and Emery Paper.	Shingling, Nos. 1 2 3	Nos
# dox 85.00, dis 200/25 % dis 7r@.10 % , 812; No. 2, 824; No. 3, dis 50 %# dox \$3.00, dis 35 %	Emery and Emery Paper. Regular numbers. Flour and F F. 8 2 40 8 40 8 40 8 40 8 50 8 50 8 50 8 50 8 50 8 50 8 50 8 5	Hav Kuives.	Mincing Knives.
# dox #3.00, dis 35 %	Large size, \$16; Medium, \$10.50 per ream; dis 15%	Wadsworth 8dis 331/4	Minclug Knives. m., (cd quality) per gross, 1 blade, \$7: 2 blades, \$12 g blades, \$13 nthrivs, per dos, Sirgle \$2,25; Double, \$3; dis 30\$ \$250 \$250 mith's, per dos, Sirgle \$2,25; Double, \$3; dis 33\$ \$250 \$250 owles Hdw, Co. dis 40\$ to \$250 \$250.
500 } dis	Enameled and Tinned Ware. Kettles		
	Tinned Sauce Pans	Jate, Clark's Nes. 1, 2, 3	CODING PATTERN
	Brass	Common Sense. dis 200 to 7 C Seymour's dis 500 to 7 B	
	Door Lock	Rolled Blind Hinges	neoli's Pattern
dis 70&10 %	Paucets.	Providence" S. 10 & 12 ln. 87.00 % 100 b dis 60&10 %	" Japanned Finish dis 50c 10
w list, July, '81, dis 10 %	Fenn's dis 40 % Bohren's Pat. Rubber Ball. dis 25 % Fenn's Cork Stops dis 24 %	Btrap {14 to 36 in. \$6.50 \times 100 \times \} dis 10 \\$	Nuts and Washers.—(In lots less than 100 lb
"dis 10%	Paucets Gis 40 S	14 in. & up, 6.00 it io b dis 10 % at	Incoln's Pattern.
\$\psi\$ dos \$5.00, dis 30 \$ \$\psi\$ dos \$2.00, dis 45 \$ \$\psi\$ dos \$2.00, dis 25 \$	Wood and Metallic. dis 40 % West's Patent Key. dis 45 % Metallic Key Losthon Lined	L1% in. 120	exagon Nuts
dis 35&20 %	Wood and Metallic	Hoes.—Riveted Shankper doz, \$5.00; dis 35 %	Nut Crackers able (Humason & Beckley Mfg. Co.). dis 334 « ake's Fattern. & dos 22.52 net arner & Seymour Mfg. Co. dis 30 »
din 35&10 %	J. Sommer's Best metallic key	Funb dis 15 %	Dikum. Bost. Bost. B bito W D ito S. Navy. W D 8%0
dia 65 %	Files.	covill Pattern, Handled	Oliers.—Zinc and Tin
% pair 700)	Auburn.	Vinsted & Lane, Planters	Ollers,—Zinc and Tin
% pair 790 } dis 40 % % pair 360 } dis 50% 10 %	J. & Riley Carr, Horse Rasps	Hooks.	mstead's, Tin and Zinc. dis co %
astdis 50&10 %	Walter Spencer & Co.'s "Diamond" 4.50 to & Fisher's 4.75 to & C. Moss & Gamble	Hooks. Gla 55210 a Roading. Otton. Patented N. Maller & Handle Wks), dis 9.5 otton, Patented N. Maller & Handle Wks), dis 9.5 otton (Humason & Beckley Mir. Co.)	oughton's, Zinc
ast dis 35% dis 40% D 9/ge net dis 60%re % dis 50%re %	H. Disston & Sons (new list)	otton, Patented (N. 1. Mariet & Handle WES, dis 3c% otton (Humason & Beckley Mfg. Co.)	Pencils, Faber's Carpenters'
	New American dis 40 % Union File Co. dis 40 %		Pucils, Fuber's Carpenters'High list, dis 40% to 5 "Round Gilt #gross \$.55 net xon's Lead #gross 4.50 net "Lumber #gross zon's Carpenters'
# gross foe net	Fluting Machines. Enox. 124-inch Rolls	lothes Line Sargent's list	zon's Carpenters' dis 40 & 10 % Packing, Steam. Y. Beiting and Packing Co
a group 14c mes	Eagle, 3½-inch Roll	arness. Reading list	Plature Notin
Tool Codis 65&5 \$ 1876 list dis 221/6 \$	Crown . 44-in. \$3.50:6-in., \$4.00:8-in . \$6.50 each dis 25 5	oat and Hat, Sargent's list	T. & S. Mig. Co
dis 64&10 \$	American, 6 in., \$3; 6 in., \$3.40; 7 in., \$4.50 each, dig 25; W. Domestic Fluter. I.50 each net	asset (T. & S. mrg. Co.)	reelain Head, T. & S. Mfg. Co. dis 33/4 2
Tool Codis 65&10 %	Crown Hand Fluter, Nos. 1, \$15.00; 2, \$12.50; 3, \$10.00 \$\delta \text{doz}	Tre Screw Hooks and Eyes	Platting Machines.
dis 6.825 % Tool Codis 6.825 % 1876 list. dis 2248 1876 list. dis 2248 1876 list. dis 65810 %	Snepard Hand Fluter	ooks and Eyes—Malleable Irosdis 60&10 % As: Brass	gic Piaiting Machine
dis os&10 %	Combined Fluter and 8ad Iron doz 15.00, dis 33% %	Nos. 5 6 7 8 9 10	lanes and Plane Irons.
		Bandle, w m., 310 280 280 290 240 230	nen, First Quality
Irondis 25 %]		ntham,310 28c 26c 25c 24c 23cdls 1052.0 Mo ntional,25c 25c 23c 23c 21c 20cdls 1052.0 Bal nlean,286 24c 23c 23c 21c 20cdls 105 Bal	llev's (Stanley R. & L. Co.) new tist Jan. '79 dis 20%10 % s Stanley (S. R. & L. Co.) dis 20% to g dev's "Victor".
dis 20 %	Forks. Hay, Manure and Spiding	Ooc, "270 250 230 220 210 210	lance Adjustable. dis 20 20 5
Clis 20 % Clis 20 % Clis 20 % Clis 20 % Clis 40%5 % Clis 15 % Clis 20 % Cl	Hay, Manure and Spt-ding	Forged	nen, First Quality dis 25 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$
Co.)dis 60&10 %	Fruit and Jelly Presses.	Medium and Heavyet keg 4.37%	Iron "
	Interprise Mfg. Co	American Ice Chisel.	Sandusky Tool Codis 20
dis 3316 % E	Neurnished, list as followsdis 5c&10 % New New York	tional # doz \$0.25 dis zo Hall Hall Hall Hall Hall Hall Hall Hal	ton's Patentdis 3354 % Patent
dis 35&10 %	R dos\$3.00 \$3.75 4.25 4.75 \$25 6.00 7.00 8.00 9.00 W Acme"	miap's Ring Picks % doz \$3.00 dis 40% Hu ood Head Picks, Sargent's % doz \$1.60. dis40&10% Eur	Pilers and Nippers dis 50 %
	auges. dis 40&10 % Ir	Color Colo	
") W	Chapin's	Axes, Small, Cast or Malleable. % doz 1.20 dis 10 % tchen ice Tongs % doz 2.25 net mbination ice Tools	
. BO. 50, BIO. 50, G18 26 %	Gimieta.	Ctition. Brass, 7 to 13 inches inclusive	
dis 25 %	lail and Spike dia 45 % Bee "Gimlets \$\sqrt{gross \$12.00 dia} \text{dia 50} \text{Sureka Gimlets} \text{dia 50} \text{Sureka Gimlets}	ass inreger than 13 means	Non-Adjustable
Lantern. dis 30% D	Eureka Gimlets	les' Butcher Knives	nson's Patent Adjustabledis 65£10 % ket Levelsdis 65£10 % is' Inclinometersdis 20 %
Marc E	" Hartweil's dis 50 % Mo Ha Douglass dis 40 % Mis 40 % Mi	## Shoe ## dos \$1.5 dis 1.5 di	ost Hole and Tree Augers. son Post Hole Diggerper doz \$37.50, dis 20 \$ ceher Post Hole Augers? doz 36.00, dis 20 \$
dis 55 % dis 65 % dis 66 % linpers, dis 50 % pr Outside.dis 50 % Fi	inned and Enamaled	inebs	cher Post Hole Augers
	" L. V. & C's "Handy Bas		d's each \$2.50 net
	Grindstone Fixtures. dis 70&10&10 % eading Hardware Co., new list	Marcial Por Jap'd Bame discounts as Door Locks Plated Pl	ton's Combined Pruning Hook and Saw per doz \$19.00, dis 20 \$
dis 15 @ 20 %	Gun Wads. . M. C. B. E. 11 up	niture, Plain	Pruning Hook. Pruner 12.50, dis 20 % Lee & Co.'s Pruner dis 20 % ning Shears. & dos 85.50@80.00
Bradley's dis 10 %	9 & 10 2.30 dis 5 % Her	ture (T. & S. Mfg. Co.)	House and Tackiedis 60210 %
dis 33½ %	9 & 10 2.30	adles. dis codio Jap'	d Screw. dis 60&c&to \$ 185 Screw
The post of Co	overt's Pat. Ropedis 50% orse and Cattle Ties, Covert'sdis 50%	a dies - Meiting—Sargent's	Screw Sis Section Sis Se
# dos \$3.65, dis 10 %	ammers.	P. S. & W dis 30&10 %	"F" Common and Pat. Bushed dis 20 % Tarbox Pat. Iron dis 20 % le Rack dis 50 %
July 1880 018 25 %	enery's. dis 25 artford Hammer Co. (new list July 1, '81). dis 25 artford Hammer Co. (new list July 1, '81). dis 25 artford Backley. dis 50 % Na	Dular No. C. \$0.05; No. 1, \$10.15 (not	and designation of the state of
dis 25 % Ma	agnetic Tack, Nos. 1, 2, 3, \$1.25, 1.50 and 1.75.dis 25&10 \$\frac{1}{25}\$	No. 1, per dos., \$9.50; No. 2, \$8.50, net Bern ricane No. 2	ng
HON Sto.co. die 14 g Ki		dy's Fatent	Inchess
14	THE PROPERTY OF THE PROPERTY OF THE PARTY OF	and the second of the second o	and the same of th

December 15, 1661.	
Rail. Bliding Door Wrought Brass & a 430 dis 20% \$	Payne Pettebone & Son, new list,
Rail. Railing Door Wrought Brass & a go dis 2085 \$ Iron, Painted to foot ac. dis 108 to \$ Per 100 feet. & a. to \$ Per 100 feet \$2.10 3.70 3.30—not Raxars. J. R. Torrey Ragor Co	Payne Pettebone & Son, new list. dis 40 to 18 to 18 to 18 to 19 to
Per 100 feet	Bhevels and Tenga. Iron and Brass Heas, R. & E. listdir fo&ro&r Polished Steelnew list. dis to&ro&r
J. R. Torrey Rasor Codis 15 %	Shevels and Tengs. Iron and Hrass Head, R. E. list
Badger's Emerson dis 33/6 % Radger's (act Emerson) dis 33/6 %	Spoke Mhaves. Defiance Metallicdis 20416
Imitation Emerson. \$\psi\$ dos \$8.00. als 20 \(\text{F}\$ Hunt's. \text{distance} \text{distance} \text{distance} \text{distance} \text{distance} \text{distance} \text{distance} \text{distance} \text{distance} dista	Spoke Minaves. Defiance Metallic. Iron. dis sexts Wood. Hallev's (Stanley R & L. Co.) new list. dis soxio Stearns' dis soxio dis soxio dis soxio Stearns' dis soxio
Hanor Strus.	Spoke Trimmers. Bonney's, # dos spoc dis 205: Stearn's, # dos spoc dis 205: Ives'No. 1, \$15.00; No. 2, \$12.00 \$\text{#} dos, dis 205: Douglass. Spoons.
#EI vers Iron and Tinned, new list, Doc 10, 1881	Ives'
Nos * 8 9 10 11 12 13 14 15 % ** D490 500 520 540 550 550 600 650 % Cases	Basting dis foctors and Tea. dis foctors and Tea. dis set Solid Table and Tea. dis set Solid Table and Tea. dis set Solid Table and Tea. dis set S
	Britannia dis 65&: Reea & Barton dis 40&5&:
Stair, Brass, dis 25, 5 Stair, Black Walnut. dis 40 c tair, Amer can Patent dis 50 c Barn Door, Sargent's list dis 60 c Acme (Anti-Fiction) dis 60 c ttope.—Mnia' Net List. Oct. 5, 1831, dis on 500 1be a and over, 1340 c	Holmes, Booth & Haydens dis 40x 50x 10x 10x 10x 10x 10x 10x 10x 10x 10x 1
Acme (Anti-Friotion)	Tin (P. S. & W.), Feas
### ### ### ### ######################	Stocks and Dies
Tar'd Robe	Hindostan No. 1, 6 c; Axe, 8cdis 20810
Stead	Washita Stone
Hay Robe Boxwood. Ivory.	Arkansas Stone No. 1, 4 to 6 in
Hules Boxwood Ivory	Turkey Oil Stone (Chase)
From a to to los	
From a to ic ibs	Stove Polish Stove Polish Figres 80.00 dls n
Nrs. Pott's froms. Square Back	"Mirror" # gross \$6.co, diss Ruby # gross \$8.77. it Rising Sun # gross \$2.75. it
Sand Paper. B. eder & Adamson's Flint, oo to 134\$4.75 F ream	Dixon's Plumbage
Sand Paper. B eder & Adamson's Flint, oo to 1/4. \$4.75 \(\tilde{\pi} \) ream \$2.2\(\tilde{\pi} \) 8. \$2.5 \(\tilde{\pi} \) ream \$4.25\(\tilde{\pi} \) 8. \$2.5 \(\tilde{\pi} \) ream \$4.25\(\tilde{\pi} \) 8. \$2.5 \(\tilde{\pi} \) ream \$4.25\(\tilde{\pi} \) 8. \$2.5 \(\tilde{\pi} \) ream \$5.25\(\tilde{\pi} \) 1. \$2.5 \(\tilde{\pi} \) ream \$6.25\(\tilde{\pi} \) 1. \$2.5 \(\tilde{\pi} \) 1. \$2	Squarea. Steel
Eartles Flint, same list as B & A	Winterbottom's Try and Mitredis 20210
Gago's	List of April 2, 1886 Tinned Swedes Tacks
Parties Flint, same list as B & A	Swedes Tacks, all kinds
Raw Hide	Gimp and Lace Tacks. dis 332 % Finishing Nails. Tinned dis 3 6 %
cteel Minob Lecks. Clark's, No. 1, Sto.eo; No. 2, St.co per grossdis 331/5	Trunk and Clout Nails. dis 3 % Common and Patent Brads. dis 30 % Busket Nails dis 30 % dis 25 %
Ferguson's Window Springs Of L 2002 Person dis 24 S Hammon Window Springs No. 1, 200 C Person dis 24 S Hammon Window Springs No. 1, 200 C Person dis 14 S	Loathered Carpot Tacks dis 2, 5 American Cut Tacks dis 3, 5 Close Roy Natis dis 3, 5
northup which a smith. Plain Jap'd # gro \$10,00 net fne Pertect, Clark & Smith. Plain Jap'd # gro 14.00 net Por Knob Jap'd # gro 14.00 net Nickel-Plated # gro 27.00 net	Chair Nails dis 333 %
Universal 'dis 30 %	Common and Ring
Manuage Stuffers or Filters. W doz \$20 dis 30 s	Tapes, Measuring.
Perry # dos, No. 151 No. 0, #27, dis 30 # raw CutNo. 4 each #30.00, dis 20 \$ 5 aterprise Mrg. Oo dis 30 # 30 # 30 # 30 # 30 # 30 # 30 # 30	Thermometers. dis 25&20 Tin Case dis 70&20
Silver's	Tabacca Cutters. Enterprise Mr. Co. (Champion)
Mill	All Iron
Boynton's Lightning Cross Cuts, new listdis 20 % One-Man. all lengths, Billet Webs, 30 in. Gis 24 %	Toe Calks.—Winsted
I.ightning Buck Saws X Ferdis 25 % Lightning Hand, Panel and Rlpdis 25 % Wheeler & Clemson Mrg. Co.'s Handdis 25 %	Transom Litters.
W. M. & C. Mfg. Co. Cross-Cuts, except Monarch, dis 20% Livingston's Butcher and Kitchendis 20% Framed Wood-	Richer's Patent. dis 20810810 Excelsior dis 50810810
Silver's Silver's Disston's Circular Will Cross Cut. Hand, Panel. Rip, &c. dis 40 % Hand, Panel. Rip, &c. dis 40 % Boyston's Lightning, Cross Cuts, new list. dis 20 % One-Man. all lengths, ", dis 20 % Billet Webs, 30 is. dissert	Thermometers. The Canoline Control of the Control of the Canoline Control of Canoline C
White, Vermont	Mouse, Wood. Choker
Boynton's Patent X Cut, per doz. \$12.00; Hand Saw,	Rat. "Decoy"
per dot. Since the state of the	Lothrops Brick and Plastering dis 28 Reed's Brick and Plastering dis 18 Disston's Brick and Plastering dis 18
Logard's	Peace's Plastering. dis 3c Clement & Maynard's dis 2c Rose's Brick dis 2c
Hemis & Cali Co.'s New Patdis 30&c & Bemis & Cali Co.'s Lever & Spring nammer.dis 30&c & Platedis 50 &c & Gis 10 &c &	Brades' Brick dis ac Worrall's Brick and Plastering dis ac Garden dis ac Garden discourse discou
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Naw Seiss	Trucks (Warehouse, &c.) Penfield Block Co
Monles. Hoten, Counter, No. 171	"Crown" (A. H. Hildick) 40 to 100 B, 150 m Peter Wrights
Trion Platform	Parallel, Parker's. dis 10 Wilson's. dis 35 Howard's dis 26
Forsyth Scale Co	Bargent's dia 55&co
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(Providence Tool Co	Washer Cutters. ### dos \$12.00 dis 25 Johnson** ### dos \$12.00 dis 25 Penny*s. ### dos \$12.00 dis 25 Penny*s. #### dos \$10.00 dis 50 ###################################
Screw Drivers. Ouglass Mfg. Co. dis socrocto s Diaston's dis socrocto s Diaston's Patent Excelsion dis so s Huck Bros Stanley Rule & Lovet Cos., Varnished Hdis. dis socroc Rargent & Co. dis socroci di socro	Appleton's w doz \$15,00, dis 60&10 Washers.—See Nuts and Washers.
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Bargent & Co.'s	NOS. 19 @ 29, dis of
Cowles Hdw. Co., No. 1 Extra	Galvanized, Nos. c to 18market list. dis 40@45 Tinnec, Nos. c to 18dis 40@45 Cast Steel
Clark's Patentdis 25 g	Tinned Broom Wire, Nos. 18 to 25dis 55 Annealed Fence, Nos. 8 and 9dis 503(2)6 " Grape, Nos. 10 to 14dis 404(2)6
Fiat H'd Iron	Only anized Telegraph, Nos. 7 to 9
Bound Head Brass brass and Silver Capped dis 35 % Japanned, list of Plain Sen ws	Fence Staples. 4 5 54 6 54 Staples, Galvanized. 7 D 7 @ 74 Styles Steel Wire. 57.00 to:
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Screw Windew Balances. R. B. Hugunia's	Pattern, Malleable
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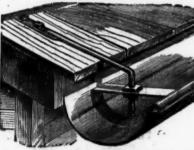
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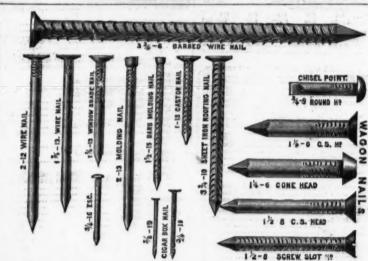


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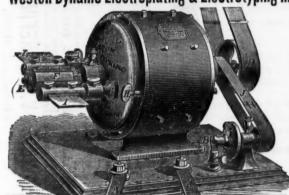
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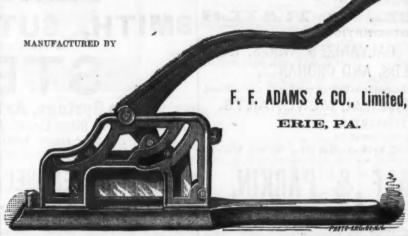


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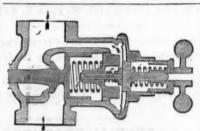
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This tool has been thoroughly tested, and has given the greatest satisfaction to all who have tried it. The principle on which it works makes it self-cleaning and prevents adhesion in sticky soil; therefore it always works free and easy. It is far superior to all plungers, augers and boring machines, as it works well in stony, sandy, or clay soils; quicksand under water is as easily removed as though no water existed.

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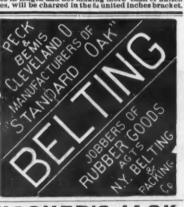
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1870. dis 508210 % Galvanized Pump. dis 508210 % Best Proof Coli Chain—English \$ \$ 9% c net	294
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Merchant Iren. TERMS.—Note or acceptance at 60 days, with currer rate of exchange on New York, or a discount of 2 pcent. for cash, if remitted within 10 days from date	Piston Slide I
For fluctuations and discount on card rates see weekly Pitts	Boiler thick
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114 to 4 by 34 to 1 inch	se squar
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34 inch by 56 and 3-16. 34 inch by Nos. 11 and 12. Hoop Iron. 134 to 4. Nos. 13, 14 and 15.	Spind Sand Pipe Rolli
3 inch by Nos. 11 and 12.	3.50 Spur 3.60 Pulle 3.60 Pulle
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Nos. 16, 17 and 18.	4.80 26 X 4.90 16 X 5.10 30 X 5.20 30 X 5.30 34 X
The prices under Hoop Iron do not apply to Co Ties. The prices under Hoop Iron do not apply to Co Ties. Ighter than the lightest indicated. Ighter than the lightest indicated. Ighter field eluctive will be charged for cutting fit	tton
d to speciment rendermin	1 30 X
Barret Hoops. 14 to 2 in., cut to length. 5 to 11 lbs, per set of 6 hoops. 6 lbs, and less than 9 lbs, per set of 6 hoops. Less than lbs, per set of 6 hoops. Extras for Cutting to Length all Freeding Iron all Iron, including Tire.	3.50 30 X 3.60 30 X 3.80 34 X 30 X
All Iron, including Tire. No. 9 and heavier. No. 9 wings. Sheet Iron.	.3.30 glas inch inch inch
No. 10 to 14	6.5c 6.8c 7.1c
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not less than z.ioc extra. Wood's Patent Planished Sheet. ist quality (A)	.916e
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134 by 34 by 4-163.0c.] 1 by 34 by 4-16	-3-50 -3-30 -3-30
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g 214 and 3 by 36 " " 12 and 16-1b. "	-4340 -4340
{c 1½ to 2 by ½ to 54 inch	3.00 3.20 3.50
Se Norway Guard Iron, 16x3(x3) and 16x3(x3).	6,50
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HEIRON AGE Nails. See Pittaburgh Trade Report. Best Quality Refined Cast Sécel. \$ 2 unche, ficultive	
Source, Flat, Octagon and Round.	
4 and 34 to 4 130 -32 and 44 to 5 143 -16 and 54 to 6 170 -32 inch 24	
inch	
Ordinary Sizes, ¾ to 2 inch Round	
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Square, Flat and Octagon, 1/2c extra throughout the list. Cut to specified lengths, 1/2c extra.	
Hammer Cust Steel. Inches and under	
Best. 2d Qual. 3d Qual. Open Hearth. 10 21 gauge 110 20 7160 00 00 00 00 00 00 00 00 00 00 00 00 0	p
Auger and Auger Bit	
Side Bars	
Pike and Cant Hook	•
Coal and Grante Wedge	
Crucible, Open Hearth or Besseyer	
Boiler, Fire-Box and Flue Sheets, not less than 3-16 thick.	
ately	
Locomotive Tank Steel	
Square, Round, Half Round and Flat Bastard, 8- Inch and over. 8- Mill Saw, 8-lach and over. 8- Mill Saw, 8-lach and over. 9- Mill Saw, 8-lach and over. 9- Mill Saw, 8-lach and over. 9- Mill Saw, 8- Mi	
Spiral and Taper, cut to lengths	v
1x3-16, 3/x3-16 and 3/4	1
Agricultural Implement Cast Steel. Fork and Rake, Crucible	
Solid Safe Cast Steel. 90 Agricultural Implement Cast Steel. 70 Fork and Rake, Crucible. 70 Hoe, Crucible. 75 Hoe, Crucible. 76 Hoe, Crucible. 74 Gern Stalk Cutter, beveled. 54 Gerneld Hoe and Shovel Steel in Bers. 74 Crucible Plow Steel in slabs. 74 Spring. Bessemer and Open Hearth.	
" spiral and taper, cut to lengths. 44c Tire, 3-10 thick and above. 54c	
Axle Billets4990	4
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Thrasher Steel. 950 Teeth 4500 Rolled Hammer Billets 560	
Terms.—Four months; 3 per cent, discount for cash, Rolls and Castings.	
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Pulleys up to 30 inches 3340	
over 30 inches	
6 to 7 in diam ato so in law	
25 to 24 in. 15 to 72 in. 45c	
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Size. AA. A. B. C. 6 x 8 to 10 x 15 \$8.2 x \$7.50 \$7.00 \$6.50 11 x 14 to 16 x 24 9.2 x 8.50 \$.00 7.3 t	١
16 X 36 Co 24 X 30. 10.74 9.75 8.75 7.75 26 X 28 Co 24 X 36. 13.25 10.75 9.00 8.40 26 X 36 Co 26 X 44. 13.00 11.50 9.75 9.00	١
30 X 52 to 30 X 54	١
36 x 60 to 40 x 60. 20.75 15.05 17.25 Double Strength. 12.75 11.72 10.75 10.00	1
18 X 22 50 20 X 30.	
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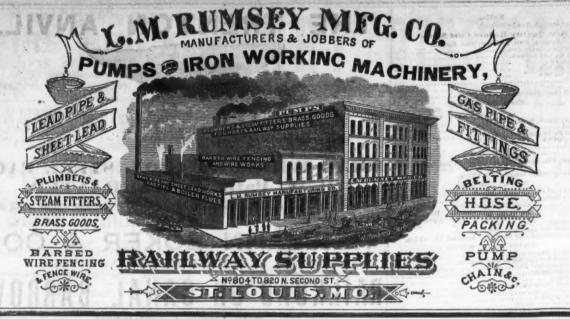


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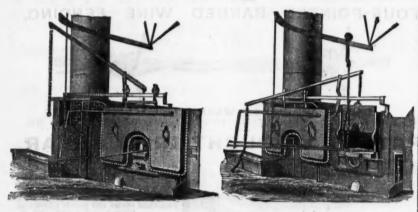
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r	Cards.—Watson's make, Horse and
in is	" Curry dis 10 % New List,
0	Wooidis 10 % July 1881.
62	Casters.—Bed and Table dis 50 %
	Chain. Traces 0%, 10, 4, straight pair 450
	7. 12. 2. " n pair 75e
	Coll 3-16
	** * 16 # n 8 c
	# % # 10 0940
8	No. 1. each, \$3.00 No. 2. 3.00 No. 3. 6.00 No. 3. 6.00 No. 3. 6.00 No. 4. 6.00 No. 5. 6.00 No. 6. 6.00 Octributes 6.00 Cartidges. — U. S. Cartridge Co. dis 78 Curry. dis 10 \$ New List, Tuly 1881. Custon dis 10 \$ Null 1881. Wool. dis 10 \$ Null 1881. Wool. dis 10 \$ Null 1881. Casters. — Bed and Table dis 20 \$ Chain. — Traces 56, 10, 4, twisted \$ pair 40 \$ Traces 56, 10, 4, twisted \$ pair 40 \$ Traces 56, 10, 4, twisted \$ pair 40 \$ Traces 56, 10, 4, twisted \$ pair 40 \$ Traces 56, 10, 4, twisted \$ pair 50 \$ Traces 56, 10, 4,
.6	" j-16. b h 6 c Chalz.—White, Carpenter's. b gross oc Red, Carpenter's. g gross soc Red, Carpenter's. g gross st. oc Chisels.—Hart. Bliven & Mead, Framingdisc&co&to & Underhill. Framing disc&co&to & Buck's Chisels. dis 30 Clastes Line.—
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Champion				W KOUE 340
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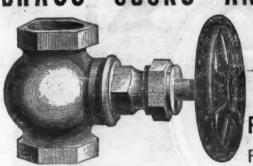
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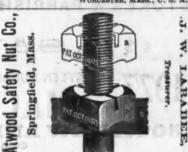
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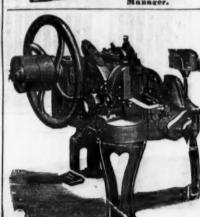
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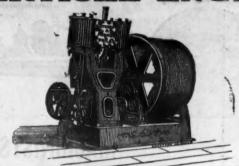
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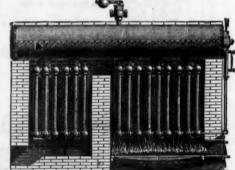
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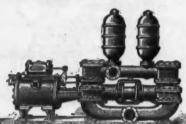


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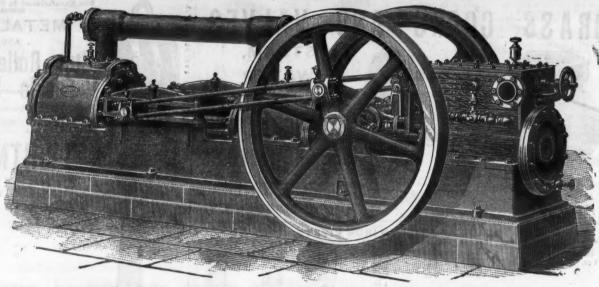
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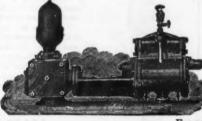
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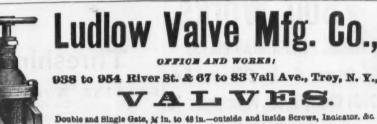
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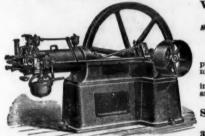
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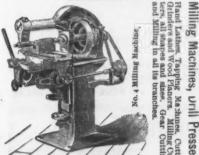
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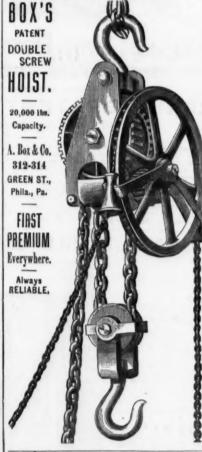
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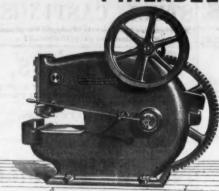
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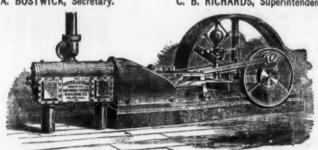
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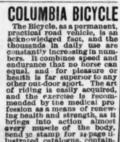
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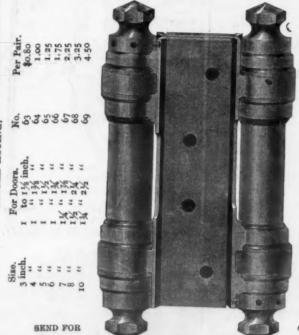
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